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ABSTRACT

A survey was made of the college and university instructional development programs in the United States as of January, 1971. The survey inventoried the rationale and procedures under which the programs were operating. A further objective of the survey was to develop a model which could be used as a guide for planned or existing programs. Results of an 85-item questionnaire mailed to 124 people engaged in instructional development and indepth comments from selected program leaders were analyzed, showing that the meaning of "instructional development program" is not clear, that typical program characteristics could be identified and a framework for initiating a development program should be formulated, but that a universal model was not feasible. Guidelines for instructional developers in handbook form, a selected bibliography, the instruments and sample used in the study, and results of some of the analyses are included. (Author/SH)

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INSTRUCTIONAL DEVELOPMENT PROGRAMS IN HIGHER EDUCATION

A FIELD PROJECT
PRESENTED TO THE
DEPARTMENT OF SECONDARY CURRICULUM AND INSTRUCTION
BRIGHAM YOUNG UNIVERSITY

by

Alton Maughan Lee August 1972

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Chapter I

INTRODUCTION TO THE PROBLEM

In an age where we have the technical know-how to land men on the moon, it seems incongruous to say the least to permit imprecisions and generalities to exist in the education and training of those, or any other, individuals for whom we have responsibility.

The need to specify educational objectives along with criteria for determining when they have been achieved is generally accepted (Wright, 1970) but unfortunately generally not done.

Systematic procedures for attacking educational problems, including the design of instruction have been devised--but to date infrequently implemented (Harmon, 1970; McMurrin, 1971).

Why are these tools for improved educational problem solving not being more widely used by educators? What traits or aspects of this technique, known as instructional development, are failing to produce the desired results and why? More importantly, what can be done to identify successful examples of the technique and to share them with others, so that they too may benefit from this systematic approach to educational improvement?

THE PROBLEM

Statement of the problem. It was the purpose of this study

1. to identify all college and university instructional development programs in being in the United States as of January 1, 1971;

2. to inventory the rationale and procedures under which they operate;

3. to develop a model from the rationale which can be used as a guide for existing programs or for the establishment of new instructional development programs in higher education; and

4. to suggest methods for the implementation of the model.

Importance of the study. The need to improve the quality of the instructional process in higher education has been pointed out by Moore (1970), Angle (1970) and others, who suggest the application of the "systems approach" to course design as a way of achieving this goal.

It would seem that there are two basic alternatives in this regard:

1. course instructors could be re-schooled to gain "systems" competency, or

2. specialists already possessing this skill could be assigned to work with subject matter experts to develop

better quality instruction.

In either case, well-defined procedures are essential if the effort is to be successful.

A model for instructional development, derived from actual program practices rather than theoretical constructs, could do much to reduce the uncertainty and possible inefficiencies now associated with this process, thus resulting in improved instruction.

DEFINITIONS OF TERMS USED

Systems approach. Man-machine interaction in terms of specific tasks and outcomes, usually within an organizational context.

Instructional design. The systems approach as applied to instruction for the purpose of structuring a lesson, unit, course or curriculum.

Instructional development (ID). Instructional design followed by production, validation and utilization.

Instructional development model. A procedural schematic sequencing the steps for instructional development.

Composite instructional development rationale. The policies and procedures of a variety of instructional development programs resulting in a typical or representative way of viewing or enacting the process.

Instructional development program (IDP). The ongoing process of course development including the administrative framework set up to coordinate and/or execute instructional development.

ORGANIZATION OF THE REMAINDER OF THE PROJECT

Chapter 2 of the study deals with a review of the literature on instructional development and on sub-elements of the process, including media and design considerations. An historical prologue to development is also included along with a brief review of the systems approach as applied to instruction.

Chapter 3 outlines the procedures used in identifying the population, selecting the sample, constructing, validating and administering an instructional development survey, and the procedures used in tabulating the results.

Chapter 4 contains the results of the survey obtained through a mail questionnaire, including references to cross tabulation of certain data.

Chapter 5 reports a controlled interview situation with the directors of the five selected instructional development programs on the same basic topics covered by the questionnaire.

Chapter 6 summarizes and concludes the study as it offers a description of a "composite" instructional development program along with a model and guidelines for the establishment of new or review of existing programs.

Chapter 2

REVIEW OF THE LITERATURE

Due to the relative newness of instructional development as an identifiable process and lack of a generally accepted definition of what it is, a cohesive body of literature on the topic does not yet exist.

Reported here, therefore, are some of the historical foundations and considerations necessary for its implementation, as well as a necessarily brief overview of the more directly related literature.

HISTORICAL PROLOGUE

Perhaps the most comprehensive review of research on extra-teacher methods of improving education was that made by Allen (1958, 1960). Nowhere in this extensive review, in some cases going back as far as a quarter century, was the process of instructional development mentioned.

The rapidity of change within the current decade was underscored by Finn and Allen (1962) when they pointed out the lack of similarity between the 1956 and 1962 issues of the Review of Educational Research dealing with educational media and technology. A similar contrast was noted by Torkelson (1968) in comparing the 1962 edition with the

1968 issue on the same topic.

It was in the earlier (1962) issue that instructional development was first alluded to when Norberg stated that:

> . . . a systems approach to the use of media in education, when adequately developed and properly related to an adequate theory of learning, could effect noteworthy changes in educational media research.

From this single and rather oblique reference to the systems approach in education, to the devotion of an entire issue of Audiovisual Instruction to the subject a scant three years later, suggests the rapidity and intensity with which the concept was embraced by the profession. Evidence that this was not merely a passing occurrence is offered in the form of continuing publications on the topic from then until the present time as noted in succeeding sections, and as again reenforced by the selection of this topic as the theme for the December, 1971 issue of Audiovisual Instruction.

A prediction made by Finn (1967) during this formative period may in future years be viewed as being almost prophetic:

> The already well-developed trend toward more systematic organization of instructional materials will reach fruition in application in schools and colleges within the next few years. Systems of teaching the structure of subject matters and certain skills such as reading will be applied on an increasing scale. These systems will make use of all the available instructional technology and will absolutely control the curriculum in the areas (such as physics) where they are applied.

Although apparently moving in this direction, the rate of progress is slow, due in great measure to the problem Popham (1967) identifies:

> . . . almost everyone involved in the development of instructional products agrees that a prime deterrent is the unavailability of qualified personnel. We simply do not have enough individuals who have expertise in the systematic development of instructional materials.

This situation may be in large measure due to the current state-of-the-art described by Saettler (1968):

> Instructional design is still an unexplored theoretical and research frontier, and at this stage in the history of instructional technology the function of an "educational designer" has yet to be clarified, let alone implemented in instructional practice beyond the most rudimentary beginnings. There are no texts or guidelines appropriate for use in designing instructional media-messages, nor do we possess a sufficient body of experimental knowledge which can provide a basis for such design.

An organizational framework within which some of these problems can be addressed was established at the 1971 National Convention for the Association for Educational and Communications Technology, at which a Division for Instructional Development was established.

SYSTEMS APPROACH TO INSTRUCTION

There seems to be no widespread agreement on what is meant by the terms "systems" or "systems approach." It almost seems that the meanings of these terms derive from the uses they are put to or the audience being addressed.

It is not surprising therefore that Kaufman (1968), in addressing a conference on problem solving, defines a systems approach in terms appropriate to the occasion. In his view, problem solving consists of the following steps: (1) define "what is," (2) define "what is required," (3) select an appropriate process for achieving "what is required," (4) implement the process, (5) determine validity of solution, and (6) re-do if necessary. Kaufman feels that this derived problem solving model is also the basic model for a systems approach to education.

The formal techniques still needed in order to implement a systems approach from the above model consists of systems analysis tools and systems synthesis tools. The systems analysis approach suggested by Kaufman includes: (1) mission analysis, (2) functional analysis, (3) task analysis, and (4) methods--means analysis. Tanner (1969) reviews additional systems analysis techniques including: (1) program evaluation and review technique (PERT), (2) linear programming, and (3) utility/cost sensitivity analysis. Wright (1970), adds Planning-Programming-Budgeting Systems (PPBS) and operations to the list.

Kaufman's concept of systems synthesis includes enactment of the major-level tasks of: (1) selecting solution strategy, (2) implementing solution strategy, (3) determining performance effectivness, and (4) revising and correcting as necessary.

This final task is one of the most distinctive features of the systems approach, and is treated in greater detail by Merrill (1968). The importance he attaches to the feedback function is suggested by the terminology Merrill uses in calling his a "cybernetic" instructional system. Major components of this system are the learner, the environment, and the instruction. Inputs to the systems environment include: (1) learner traits, (2) library input (all instructional materials), (3) objectives, and (4) feedback. Outputs from the system are: (1) knowledge of results, (2) response record, and (3) display to the learner.

This same general view of the structure of an instructional system is shared by Smith (1966), who also offers a conditional definition of the systems approach.

> For the purposes of this report, an instructional system is defined as an integrated set of media, equipment, methods, and personnel performing efficiently the functions required to accomplish one or more training objectives. These objectives are statements of the performances required of the students after training.

The major components of Smith's instructional system are the student and the following functions: (1) practice of performance, (2) practice of knowledge, (3) presentation of knowledge, (4) management of students, and (5) quality control.

Smith (1964) stresses the importance of clearly specified instructional objectives, and states that the first step in developing those objectives is to "analyze and describe the relevant operational systems unit to which students will go upon graduation." A procedure for developing objectives by analysis of existing systems--rather than designing new systems--is suggested and guidelines for expressing each task and its components clearly and precisely in terms of performance objectives are included. These guidelines coincide with Mager's (1962) approach in specifying that a set of objectives must be readily communicable and state the terminal behavior required, the conditions under which the behavior is to be observed, and the standards the behavior should meet. This is more simply stated by Mager (1968) as "a usefully stated objective . . . is one that helps us to see where we are heading and tells us how to know when we have arrived." Canfield (1968) suggests that behavioral objectives should also include a statement of rationale or justification stating why the learner should achieve the objective, and be phrased in terms that the learner will understand.

Another major concern of Smith (1965) is controlling the quality of training. Most other training systems vaguely suggest that the feedback function takes care of this. Smith, however, goes so far as to apply the systematic approach to this component of his basic model and comes up with the following as the essential steps of a quality control system: (1) a detailed statement of training objectives based on job requirements, (2) accurate and appropriate proficiency measures, (3) effective communication concerning the performance of students on the tests, (4) effective procedure for corrective action, if necessary, and (5) supervisory support.

Although Smith's remarks are primarily concerned with the process of training rather than education, it may be for this very reason that they should be particularly noted. The relative ease of measuring the accomplishment of performance objectives in a training situation and the necessity of assuring that they are the correct objectives to start with, particularly in the military environment in which Smith works, leaves less margin for speculation and error than in educational situations where mistakes and faulty design may not be as critical.

The level of current concern for quality control in the development of training is indicated by the recent publication of a 108-page regulation by the U.S. Continental Army Command entitled "Systems Engineering of Training (Course Design)," which required that all Army Service Schools redesign all of their courses using these new procedures by 1973 (Sherrill, 1970).

Gagné (1962) offers a parallel system (however for reasons that are noted later on, only the human factors tract is reported here) with three major parts: (1) the design stage, (2) the development stage, and (3) the testing stage. Preceding the design stage are the functions of deriving a statement of the purposes of the system and arriving at an advanced operations design for the system. In the design stage are the following events: (1) task description, (2) task analysis, (3) individual training, (4) training devices, and (5) performance measures. Team training precedes the testing stage, which is followed by systems training, systems evaluation, and finally systems operation.

As derived by Project ARISTOTLE, the systems approach to education consists of eight steps: (1) need, (2) objectives, (3) constraints, (4) alternatives, (5) selection, (6) implementation, (7) evaluation, and (8) modification (Lehman, 1968).

Lave and Kyle (1968) acknowledge that the nine steps of their model: (1) goals, (2) scope, (3) objective function, (4) conceptual framework, (5) analysis model, (6) measurement model, (7) testing, (8) alternative solutions, and (9) implementing, need not occur in the order stated, nor need they be performed independently.

Cyrs and Lowenthal (1970) add yet another systems approach model: (1) gather input data on students, (2) formulate student performance objectives, (3) construct pretests, (4) select course content, (5) select the instructional strategy, (6) produce those instructional materials not available commercially, (7) select the instructional process, (8) conduct instruction, (9) analyze posttest, (10) evaluate.

The relevance of the systems approach to the process of instructional design, particularly as applied to course development, is shown by Eraut (1967). Considering a course as an instructional system, the components are the learners, the instructors, the materials, the machines, and the technicians. Eraut sees the input as the learners' initial knowledge, and the output as the learners' final knowledge. He further states that

> . . . the purpose of course development is to design validated instruction that is guaranteed to convert any input meeting the input specifications to an output that meets the instructional system's output specifications.

DESIGN CONSIDERATIONS

Gilpin (1962) suggests several other ingredients for the instructional design recipe:

1. the relevant capabilities of the target student group must be known and specified in the same manner as the instructional task objectives,

2. measuring instruments are needed that will detect entering students who do not have the relevant capabilities,

3. relevant known incapabilities (such as physical defects) must also be taken into account, and

4. the practical aspects of facilities, personnel, equipment, maximum allowable training time, etc., must likewise be considered.

Gilpin adds that "these things all have to be specified exhaustively so that the instructional system designer can know both what resources he has, and the limitations within which he must work."

A philosophic consideration is pointed out by Churchman (1965), who uses the term "housekeeping approach" to characterize the part-to-whole method of systems design as opposed to the whole system principle which examines the whole problem for whole costs and whole benefits. According to Churchman, "The good systems designer is one who listens carefully to the debate between these two sound principles."

Gagné (1962, p. 2) dismisses this controversy as a function of the evolutionary state of the art:

> Although it is evident that many systems in the past evolved by steps, nowadays it has become quite commonplace for designers to take from the very outset the deliberate course of deriving from some originally stated purpose the characteristics of a total organized system.

Gagné, however, is primarily concerned with man-machine systems. In education the machine aspect (equipment, environment, materials) is frequently a "given," as is the choice of part-to-whole or whole-to-part structure. It is for this reason that only the ordering of the human components in Gagné's system was presented earlier.

Psychological bases for instructional design are suggested by Glaser (1966). Although the basic design components of (1) analyzing the characteristics of subject-matter competence, (2) diagnosing pre-instructional process, and (3) measuring learning outcomes, are similar to those offered by others--their implementation differs. For example, in analyzing the characteristics of subject-matter competence the instructional designer would do so in terms of the stimulus characteristics of the content, the properties of the responses the students make to the content, and the structure characteristics of the appropriate domain--

probably in terms of its conceptual hierarchies and operating rules.

For a fuller understanding of this approach, familiarity with the learning domains reported by Bloom (1956) and Krathwohl (1964) is helpful. The hierarchical nature of learning is treated extensively by Gagné (1965), and also by Briggs (1968).

Briggs is primarily concerned with the sequencing of the information presented to the learner, and indicates the necessity of knowing whether the information is "unstructured"--i.e., is composed of independent elements which may be presented in any order during instruction--or if it has a "hierarchical" structure, such as solving equations.

By definition, there is no order--and therefore are no rules--for the presentation of unstructured information. However, there have been investigations into certain aspects of hierarchical structure. Merrill (1967) and Merrill and Stolurow (1966), report two such studies.

A new system component termed "presentation form" is suggested by Tosti and Ball (1969), who state that, "Presentation form is designed to be independent of media and content so that media forms may be paired to educational requirements and theories in a rigorous manner." They further contend that failure to recognize the distinction between the design elements of medium, presentation form, and content is the major fault of instructional design today.

MEDIA CONSIDERATIONS

If it is inappropriate for the presentation form to be determined by the selection of media, is it equally out of order for the presentation form to dictate media selection? The need for the answer to many similar questions as well as the need for reinvestigation of the role of media--particularly as it relates to the systems approach--is recommended by Vandermeer (1964).

Finn (1967), suggests a classification of media relationships: (1) the tool level, (2) the data level, (3) the behavior control level, (4) the meaning level, (5) the research level, and (6) the systems level. Although this classification was intended for use only at the college and university level, it nevertheless demonstrates the dynamic nature of media generally and the necessity of reconsidering our concept of its role.

Briggs et al. (1966) suggests a procedure for choosing media for instruction:

1. state behavioral objectives for the course of unit of instruction in the sequence in which they should be taught,

2. for each objective, identify the type of learning involved,

3. design a media program for each objective which lists the instructional events, identifies the characteristics of required stimuli, and states the media

options which would be acceptable,.

4. examine the media options for a group of objectives making up a sequence of instruction to identify frequently occurring media options,

5. assign media to instruction on the basis of most effective stimulus display, convenience in changing from medium to medium, and economy in terms of size of unit in which each sequence is to be prepared in the given media, and

6. write specifications for the preparation of the instruction by the various media producers.

A checklist to aid in determining whether or not certain media can perform various instructional functions is provided by Gagné (1965). Allen (1967), offers a convenient reference to the availability, cost, materials and media used by a variety of presentation instruments.

A comprehensive analysis of instructional design programs was undertaken by Butterbaugh (1970) in which he inventoried the media aspects of some fifty institutions of higher education and presented six fully developed case studies, resulting in a model for a "University Institute for Learning."

INSTRUCTIONAL DEVELOPMENT PRODUCT REPORTS

An Instructional Development Institute held at Indiana University resulted in the development of thirteen modules or units of instruction according to the procedures set forth by the Laboratory for Educational Development. Stowe (1969) reports both the model used and topics examined.

Another thirteen units of developed instruction were reported by Voegel (1970) as the beginning efforts in instructional development at William Rainey Harper College. An institute held later that same year provided a platform for the sharing of results as twenty-seven individuals from sixteen community and junior colleges reported their success in developing instruction (Voegel, 1970b).

A continuing inventory of products resulting from the instructional development process will be maintained by the Technological Application Project (TAP) whose purpose as stated in their "keyman" brochure is "to seek out instruction which has been through a process of development and uses the available educational technology at all levels in all disciplines . . . ." Following identification of this developed instruction, through nationwide survey and cataloging effort, a dissemination phase will provide an information and materials exchange.

TAP is funded by a grant from the Bureau of Libraries and Educational Technology, United States Office of Education, Department of Health, Education and Welfare. Floyd D. Urbach, United States International University, Corvallis, Oregon, is Project Director.

INSTRUCTIONAL DEVELOPMENT PROCESS

The landmark study regarding the process of instructional development is the Instructional Systems Development Project initiated at Michigan State University and reported by Barson (1967). In it the University of Colorado, San Francisco State College and Syracuse University were invited to apply a development model to selected instruction at their institutions and report their findings.

An examination of institutions of higher education engaged in instructional development as of the summer of 1968 was undertaken by Engle (1969) who polled seventy-two colleges and universities to determine:

1. What specialists were included on development teams and for what portion of their time?

2. Who were the faculty participants and how were they compensated?

3. How concerned were the teams with instructional objectives, content, strategies, technology, and field testing?

4. To what extent was media and administrative support accorded the programs?

These same four questions were the basis for interviews conducted with six of the "best" institutions.

Chapter 3

METHODS AND PROCEDURES USED

This study involves survey rather than experimental research techniques. Accordingly the following steps, outlined by the Brigham Young University Survey Research Center, constitute the procedures and sequence of procedures used:

1. Population identification
2. Sample selection
3. Development and pretest of the questionnaire
4. Data collection
5. Analysis of the results
6. Report preparation

POPULATION IDENTIFICATION

In order to reduce sampling error and derive conclusions with maximum transferability, identifying and surveying the entire population of instructional development programs in higher education was undertaken.

This was done by:

1. relying on the knowledge of existing programs held by individuals working in the field,

2. contacting petitioners for the formation of a Division for Instructional Development within the

Association for Educational and Communications Technology,

3. contacting members of the National Society for Programmed Instruction who list an involvement in the design and development of instruction in their current directory,

4. contacting the chairman of the task force on training research and research-related personnel, of the American Educational Research Association,

5. contacting individuals who have received U.S. Office of Education grants for conducting or training personnel for development programs,

6. contacting persons who have published articles on the topic in professional periodicals,

7. contacting persons who have participated in symposia or workshops dealing with instructional development, and

8. contacting persons associated with programs as previously identified by other investigators.

In each of the 485 cases listed above, the individual was asked:

1. Are you presently close enough to an instructional development program to permit accurate observation?

2. Are you willing to participate in a state-of-the-art study of the topic?

3. Are you willing to provide referrals to additional persons or programs that should be included in the study?

A commitment to return the survey instrument at an early date was also obtained at this time.

A further attempt to identify existing programs was made by contacting 357 colleges and universities identified by the Educational Media Council, Washington, D.C., as having instructional media programs since there is often a close working relationship between the two.

SAMPLE SELECTION

A stratified sample, consisting of the programs at five major universities, was selected for additional study through personal interviews. This was in addition to the questionnaire mailed to all respondents in the population.

The programs selected were those at Indiana University, Michigan State University, the State University of New York, Florida State University and Brigham Young University.

The basis on which these programs were chosen for the study was the fact that they were selected for participation in the 1971 Association for Educational and Communications Technology National Convention session on "Conducting Instructional Development at the Higher Education Level." It was assumed that a positive relationship exists between such recognition and success in instructional development activities.

DEVELOPMENT AND PRETEST OF THE QUESTIONNAIRE

Using as a point of departure the program outline for the AECT convention session referred to in the previous section, a sample of which is found in Appendix C, the following general categories of inquiry were established:

1. Philosophy and objectives
2. History and prognostication
3. Organizational structure and relationships
4. Procedures
5. Personnel
6. Funding
7. Facilities
8. Problems

Approximately a dozen questions were constructed for each of these categories. These were based on issues raised in the literature, on concerns expressed by individuals who have been associated with instructional development programs in higher education, the management audit procedures used by the American Institute of Management, and on problems which may effect the process although not directly a part of it. This latter consideration applied particularly to the "facilities" portion.

A preliminary screening and evaluation of the questions by individuals who have been involved with instructional and development locally reduced this number to from two to seven per category..

The resulting draft of the instrument was then submitted to additional individuals in the field, both at the local and national level, for reaction and refinement. A detailed evaluation form was provided to assist in this regard.

Through the survey instrument evaluation form and reactions expressed in person or recorded on the draft copy of the questionnaire, the final version of the questionnaire was derived. A copy of the questionnaire is contained in Appendix A.

Appendix B contains the final list of respondents to the questionnaire.

DATA COLLECTION

Questionnaire

A copy of the questionnaire was mailed to each of the individuals returning a business reply card indicating that they were engaged in instructional development, willing to participate in the survey and would return the completed questionnaire within ten days. Upon receipt, the survey questions were analysed with the aid of a computer. The results of this analysis are found in Chapter 4, along with detailed references to two major program variables.

Interviews

The interview technique used is described elsewhere in the study, but essentially consisted of posing a common set of concerns to five selected program directors in the same controlled setting. Their comments are reported in Chapter 5.

Chapter 4

RESULTS OF THE STUDY

The necessity of restating many of the 38 original questions on the survey instrument to permit computer analysis resulted in a final count of 111 questions.

It was also necessary to delete or greatly modify eight of the original questions. The reason for this latter course of action was due to problems inherent in the structure of certain questions; such as assuming that answers would be mutually exclusive, that the respondents were free to divulge the information requested, or that the question was crystal-clear in meaning.

While the basic order of questions on the survey instrument did not fall into easily distinguishable categories this was primarily due to mechanical considerations in the construction of the questionnaire. Examination of the questionnaire will disclose a code beside most questions. The code letter refers to the following categories:

A. Philosophy and objectives
B. History and prognostication
C. Organizational structure and relationships
D. Procedures
E. Personnel
F. Funding

G. Facilities

H. Other aspects

The above order also represents the sequence in which the results will be presented. These results are for the most part offered in a narrative fashion since the study is primarily descriptive in nature. Detailed tables covering the cross tabulations referred to later in the chapter are found in Appendices D and E.

PHILOSOPHY AND OBJECTIVES

Emphasis and Percent of Time Spent on Various Instructional Development Objectives

A summary of the data from which the following observations were made is contained in Table I.

To learn more about the instructional development process in general. This objective was cited by 10 percent of the respondents as the primary function of their ID program. Sixty-two percent ranked it either second, third, or fourth on their list of priorities.

Percent of time devoted to this function. Of those who indicated that the above was a concern to their program, over half devoted less than 20 percent of their time to this activity. No program devoted more than 60 percent of their efforts to this undertaking.

Table I

Emphasis and Percent of Time Spent on Various Instructional Development Objectives

Rank	Instructional Development Generally	Specific Fields	Improving Quality Instruction	Producing Validated Instruction	Other Objectives
	Percent of programs whose objectives are to do more about				
0	20	26	8	32	74
1	10	8	58	16	8
2	18	18	20	32	10
3	22	32	10	10	4
4	22	14	4	10	2
5	8	2	0	0	2
Percent of time devoted to accomplishing the above objectives					
none	26	32	16	36	78
1-20	58	46	28	32	8
21-40	10	14	20	16	8
41-60	6	8	20	12	2
61-80	0	0	16	2	4
81-100	0	0	0	2	0

To learn more about effective instruction in specific fields. Consistent with the 8 percent of the respondents that represented specific disciplines (medicine, dentistry, nursing), 8 percent indicated that their interest in instructional development was in specific fields. Interest in specific applications was ranked third by most (23 percent). An additional 32 percent placed it either second or fourth (18 percent and 13 percent respectively) in order of goals.

Percent of time devoted to learning about effective instruction in specific fields. The majority of those responding (67 percent) spent less than 20 percent of their effort on this undertaking. Thirty two percent of those responding spent between 20 percent and 60 percent of their time this way, and no one acknowledged spending more than 60 percent in the accomplishment of this goal.

To improve the quality of instruction. Nearly three times as many people gave this as their number one raison d'etre as ranked it second (58 percent vs. 20 percent), and twice as many programs ranked it second than ranked it third (20 percent vs. 10 percent). Only two programs rated it lower than third in terms of priority.

Percent of time spent in improving the quality of instruction. A third of those who responded to this question devoted less than 20 percent of their time to this aspect of instructional development. An equal number of programs (10 percent) devoted between 21 and 40 percent or between 41 and 60 percent of their time to this activity. Sixteen percent spent between 61 and 80 percent of their time this way, and no program spent more than 81 percent in this fashion.

Production of validated instruction. In view of the overwhelming majority of respondents that indicated that validation was an essential part of instructional development, surprisingly few (16 percent) ranked this as their number one activity. Thirty-two percent put it in second place and 20 percent put it either third ot fourth (10 percent each category). Validation was not defined as being either summative or formative.

Percent of time devoted to the production of validated instruction. Of those who responded to this question, half spent less than 20 percent of their time producing validated instruction. One quarter spent between 21 percent and 40 percent, one sixth between 41 percent and 60 percent, and only 6 percent devoted from 61 percent to 100 percent of their time to this undertaking.

Other objectives of instructional development programs. Nearly three-fourths (74 percent) of all respondents indicated that they had no other objectives, thus suggesting that the alternatives listed above are quite comprehensive in their coverage of the purposes of instructional development programs. Of those programs that did indicate other objectives, the largest percentage (ten) was associated with the second level of importance; again suggesting that the most important objective had already been covered. Nevertheless 8 percent indicated that an item not covered was their primary concern. Four percent indicated that objectives other than those listed were in third place on their list of priorities and 2 percent said the same thing about the fourth and fifth place rankings of their programs.

Percent of time devoted to accomplishing other objectives. Of those who indicated that they had other objectives, slightly over a third (36 percent) indicated that they spent between 1 percent and 20 percent of their time in accomplishing them. Another third (36 percent) spent between 21 and 40 percent of their time in the same way. Only two programs devoted more than 60 percent of their time to accomplishing objectives other than those previously covered.

Development Products

For a detailed examination of products resulting from developed instruction, refer to the Technological Application Project (TAP) cited in Chapter 2.

Tangible products from instructional development. Instructional development definitely lead to the production of tangible materials in 76 percent of the programs covered. An additional 12 percent indicated that "usually" or "sometimes" such products result. Only 6 percent indicated that no tangible product resulted from their instructional development efforts.

Product availability. To the question, "Will these products be available for distribution outside of your institution?" the majority (56 percent) indicated they would be. Again "usually" or "sometimes" added another 12 percent to the positive side. Twenty percent however, said that such products would not be available to others outside of their own institution.

Development Program Characteristics

The data for the following six sections are contained in Table 2.

Program emphasis. On a five-point scale ranging from "theoretical basis for action" (1) to "emphasizing finished product" (5), the mean was 3.52, thus confirming the tangible product orientation indicated earlier.

IDP procedural approaches. The same five-point rating scale was used on this and the next four questions. From "procedures that were still evolving" (1); to programs that had their "operating procedures well defined" (5); a curve much more normal in appearance than one might expect, considering the extreme youth of most of the programs, emerged.

Table 2

Instructional Development Program Characteristics by Percent of Response

Characteristics	Scale values					
	0*	1	2	3	4	5
Emphasis on theoretical base (1), or finished product (5)	6%	2%	8%	16%	52%	16%
Procedural approach evolving (1), or well defined (5)	0	6	26	30	26	12
Having strict procedures (1), or innovative atmosphere (5)	2	0	10	26	42	20
Validation consistently done (1), or infrequently attempted (5)	0	18	40	18	18	6
Media produced consistent high quality (1), or lack production capability (5)	2	10	38	38	10	2
Readiness ready (1), or still tooling up (5)	4	16	22	22	20	16

*0 = no response.

IDP restraints. Restraints, termed "restrictive procedures" (1); or the lack of restraints, termed "innovative atmosphere" (5); were inventoried in an attempt to discover the degree of freedom which may be necessary to conduct an instructional development program. The mean of 3.66 suggests that a relatively high degree of freedom does exist, whether or not it is essential. As was pointed out by two of the respondents, however, these two categories are not mutually exclusive.

IDP validation. Validation, while acknowledged as an essential part of the instructional development process was practiced with less frequency than might be expected. The most apparent measure is the mode (Mo = 2) with 40 percent of the respondents indicating this level of dedication to validation. Only 18 percent claimed to consistently validate their IDP efforts (1 on the scale) and 6 percent indicated that it was infrequently attempted (scale value, 5). The mean was 2.54.

IDP produced media. As with validation the production of instructional media was generally acknowledged as an essential part of instructional development. Those who claimed to produce media of a consistently high quality (1), were offset by those programs lacking a production capability (5), as the resulting normal curve produced a mean of 2.5.

IDP readiness. The difference between knowing what to do, and actually being ready and able to do it was slight. The same normal curve attaches to both activities, as some 60 percent of the programs indicate a reasonable readiness to handle the needs of those they are designed to serve.

HISTORY AND PROGNOSTICATION

Descriptive Data

The questionnaire originally called for (a) identification of the first person in charge of each program; (b) an inquiry as to whether or not he still held this position; and (c) if not, when a change was made. These three questions, which are consecutive in nature, were deleted from the find tabulation because of the inconsistent answers received to the first one, where some respondents identified this person by title, some by academic rank, and some by name. Since this information was "nice to know," as opposed to "need to know" data essential for the proper conduct of the study, this loss was not great. The most important factors sought, those of program age and institution size, which were the basis for the final cross tabulations contained in Chapter 5, were answered in a satisfactory manner.

Age of instructional development programs. The notion that instructional development is a relatively new concept is confirmed by the fact that the vast majority (96 percent) of ID programs responding to the survey are less than five years old and that nearly half (46 percent) have been in existence for less than three years. Only one program was identified that has been operational for more than ten years.

Size of faculty. The idea that there must be a "critical mass" for successful development was not borne out by the study. Over one fourth of the colleges and universities had less than fifty faculty members. At the other extreme, one institution had in excess of two thousand on its faculty. The greatest number of schools (47 percent) had between one hundred and one thousand faculty members.

Size of student body. As might be expected, the size of the faculty is directly proportional to the number served. One fourth of the schools had less than five hundred students. The largest schools (from twenty thousand to forty thousand students) accounted for only half as many responses (12 percent). Schools with enrollment of between ten and twenty thousand provided 18 percent of the responses, between five and ten thousand 10 percent, and between one and five thousand 12 percent. Six percent of the schools had from five hundred to one thousand students. It was interesting to note that those schools with the largest student bodies seem to be the most vocal about the ID process, but represent the smallest percentage of practitioners (twenty to thirty thousand equals 8 percent; thirty to forty thousand equals 4 percent).

Sources of appointments of instructional development directors. The fact that fully a third (34.7 percent) of the ID directors were appointed by either the president of the college or university--or by a governing board (trustees, regents, etc.)--at a level above the president was seen as a significant fact, with regard to recognition of the importance of the ID program director's role. An identical number of appointments were made by persons under the rank of dean. The fact that 6 percent of the respondents felt keenly enough about the need for an ID director to "appoint themselves"--i.e., assume the role apparently without official sanction--suggests the apparent need of such a person.

Program Trends

The wide diversity of answers to question ten of the survey instrument demanded a reduction in complexity if it was to have any meaning. Accordingly, the number of instructional modules or units submitted by the respondents describing their current and projected levels of operation were examined as to whether they were increasing, decreasing, or remaining the same--among other possibilities. These trends are reported as to the percent of the programs falling into each of these categories. (See Table 3.)

Table 3

Trends in Instructional Development Programs
as Indicated by Percent of Units or Modules

Response	Started	Into Production	Completed	Validated	Used at Institution	Used by Others	Completeness of Process
No Response	14	18	22	40	36	44	30
Increasing	36	28	24	18	22	8	12
Decreasing	8	4	4	4	4	4	4
About the Same	8	10	8	6	6	8	18
Can't Tell	24	30	32	24	24	28	30
Not Applicable	10	10	10	8	8	8	6
Totals	100	100	100	100	100	100	100

In addition, a cummulative effect was observed which resulted from the sequencing of the elements of the question. This factor is termed "completeness of process" and is reported later in this section.

Instructional units started. The number of instructional units started by the programs surveyed is on the increase in 36 percent of the cases. Eight percent of the programs show a decrease and the level is about the same in another 8 percent. Trends are not identifiable in 24 percent of the cases and the question is not applicable to 10 percent of the programs. No response was received in 14 percent of the cases.

Instructional units designed and placed into production. Values of the same six categories with regard to the number of instructional units designed and placed into production are: increasing, 28 percent; decreasing, 4 percent; about the same, 10 percent; can't tell, 30 percent; not applicable, 10 percent; and no response, 18 percent. Overall, these results are seen as being consistent with those reported earlier, as increased activity is generally being experienced by instructional development programs.

Instructional units completed. Twenty-four percent of the development programs showed an increase in the number of units of instruction completed, as opposed to only 4 percent indicating a decrease. Eight percent of the programs were stable in this regard. From the data furnished it was impossible to identify any trends in 32 percent of the cases. Twenty-two percent of the respondents did not answer this particular question, and 10 percent indicated that the question did not apply to their program. The percent of those showing completion of this step was consistent with the previous findings in other steps of the development process. While only a fourth of the programs registered what appeared to be healthy growth, this was in large part due to the lack of discrimination present in the "can't tell" category, which was compounded by the "no responses" and "not applicable" answers. Perhaps a more accurate indicator than those who are moving ahead might be those who state that they are not--i.e., those programs that recorded a decrease in number of units started, entered into production or completed. This figure, which remained constant at 4 percent on all steps covered thus far (with the exception of the present one, where the figure was 8 percent), and the next three steps to be examined, indicated that the great majority of programs at least have not experienced setbacks in their undertakings.

Instructional units validated. The fact that this step had one of the highest incidences of no response by the respondents (40 percent) may indicate an avoidance behavior. While many programs professed a strong allegiance to validation, relatively few were actually practicing it, for whatever reason. This tended to be confirmed by the mere 18 percent that indicated an increase in this phase of their development process. Six percent of the programs neither increased nor decreased the volume of their validation efforts. No trends were discernible in 24 percent of the cases and 8 percent recorded a "not applicable" rating for the question.

Instructional units entered into regular use at parent institution. This final step in the development process is really the most critical, since no matter how well designed, produced and validated a unit of instruction might be, if it is not used it has little real value. Twenty-two percent reported an increase in the number of units being placed into use. As previously reported under "instructional units completed" only 4 percent showed a decrease, 6 percent were about the same and trends were not discernible in 24 percent of the cases. There was no response on the part of 36 percent of the respondents and the remaining 8 percent indicated that the question did not apply to their programs.

Instructional units adopted by or marketed to other institutions. Since this was not an integral aspect of development programs per se and since many programs already indicated that their products would not be made available to others outside of their own institution, a generally low response was expected and obtained. The categories "increasing," "about the same," and "not applicable," each accounted for 8 percent of the responses. Trends were not ascertainable in 28 percent of the cases, and while a "no response" high of 44 percent was recorded, it was not surprising in view of the circumstances just mentioned.

Completeness of instructional development process. The consistency with which the previously identified and measured steps of design, production, validation, and use were applied within the development programs examined are identified in this section. As previously indicated, this section does not correspond to a question on the survey instrument, but ratner is a cummulative measure of all of the steps mentioned in this section. Twelve percent of the programs performed each of the steps with increasing frequency, 4 percent with decreasing frequency, and 18 percent with the same frequency. Trends could not be discovered in 30 percent of the cases and an additional 30 percent failed to provide sufficient information for analysis.

Administrative Changes

The responses to the question that asked what significant changes in administration and organization had been made during the life span of the instructional development program grouped themselves into six areas. Those areas and the percent of the programs in each were: "upgraded" (14 percent); "downgraded" (2 percent); "production capability added" (5 percent); and "none" (55 percent). This latter response could once again be anticipated due to the relative youth of the majority of the programs.

Changes in Orientation

Significant changes in the strategy and orientation of the program that have occurred since its inception were called for. The responses generally fell into six categories: "more sophisticated" (15 percent); "more flexible" (15 percent); "validation added" (2.5 percent); "design added" (17.5 percent); "change in presentation (of material to students) technique" (15 percent); "no changes" (22.5 percent); and "not applicable" (12.5 percent). The contrast between more than half of the programs retaining their original administrative and organizational structures, while less than a quarter of the programs changed their strategy and orientation, suggests a point that might merit further examination in another study.

ORGANIZATION

Internal Organizational Relationships

Two thirds (66 percent) of the respondents furnished either an organizational chart or word description of the working relationships that exist within their programs. Although no program indicated that such material was non-existent, the fact that 26 percent failed to respond to the question suggests that some may have preferred to leave it blank rather than answer it negatively. Only one program indicated these materials were currently in preparation. The organizational charts submitted are contained in Figures 1 to 32 inclusive, immediately following.

Relationship to Sponsoring Institution

Only about half (52 percent) of the respondents provided an indication of the organizational relationship with their parent institutions with most of them exercising their option to combine this item with the information requested in the above section. An even higher incidence of non response (38 percent) suggests that the "non-existent" category (2 percent), "not applicable" (4 percent) or "in preparation" categories might appropriately be larger for the reason mentioned in the previous paragraph. The fact that the internal organizational relationships are apparently more solid than the relationship between the development program and the instructional institution as a whole might suggest the confidence of top administration in such programs, as the apron strings remain relatively loose. Organizational charts, or other descriptions covering this relationship not included under "Internal Organizational Relationships" are contained in Figures 33 to 37 inclusive, which follow.

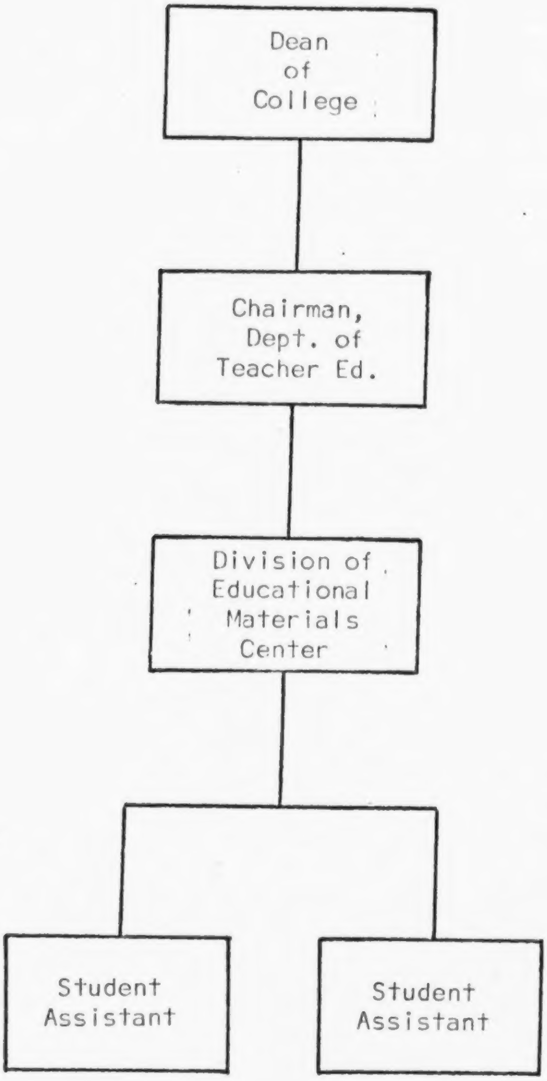

Dean
of
College
Chairman,
Dept. of
Teacher Ed.
Division of
Educational
Materials
Center
Student
Assistant
Student
Assistant

Figure I. Adrian College, Adrian, Michigan

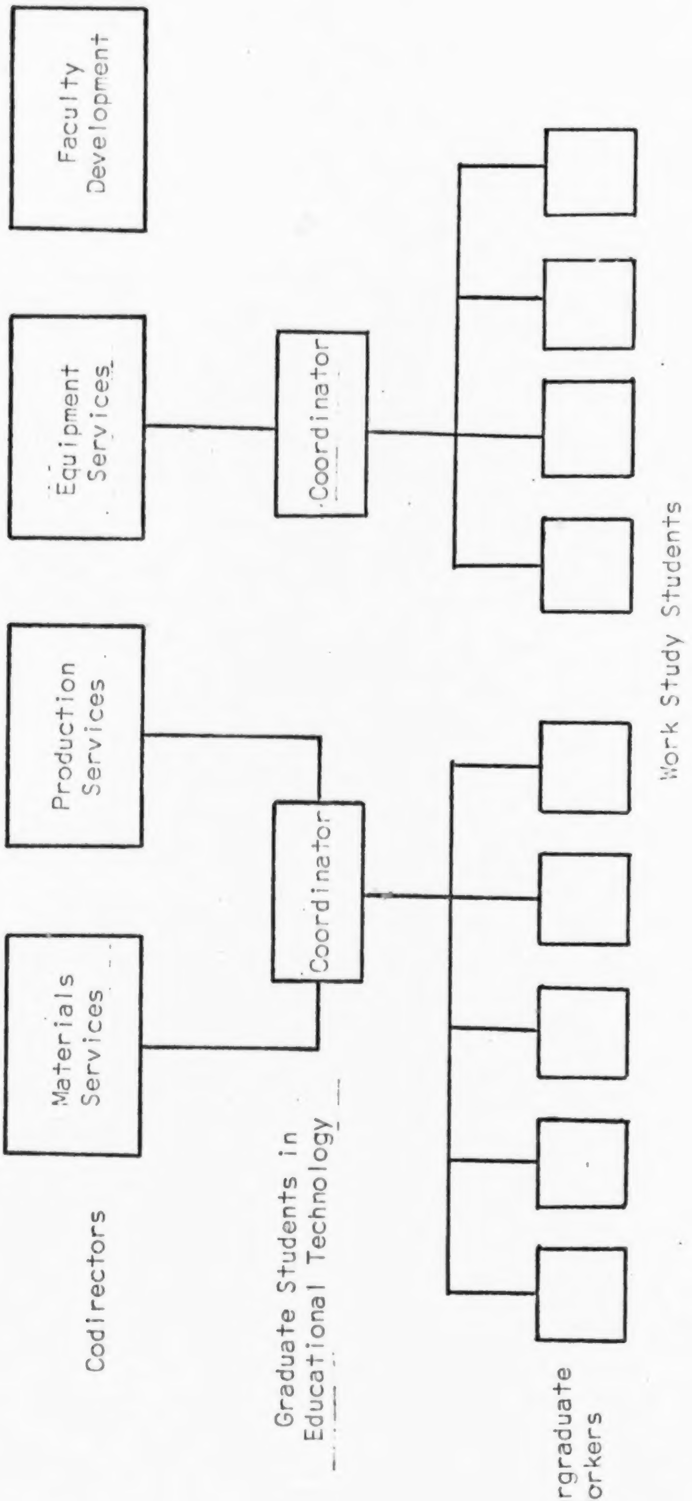

Codirectors
Materials Services
Production Services
Equipment Services
Faculty Development
Graduate Students in Educational Technology
Coordinator
Coordinator
Undergraduate Workers
Work Study Students

Figure 2. Arizona State University, Tempe, Arizona

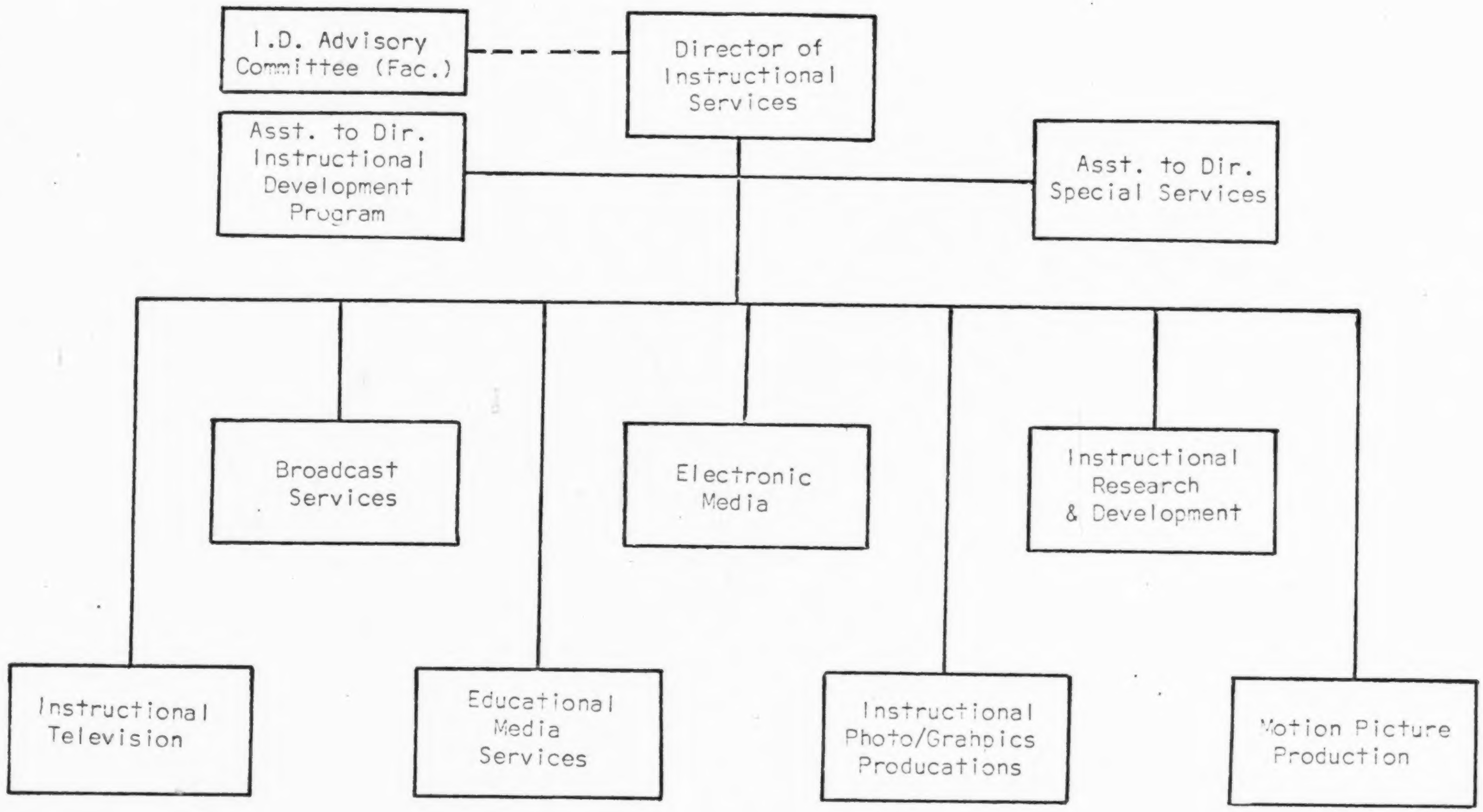

I.D. Advisory Committee (Fac.)
Director of Instructional Services
Asst. to Dir. Instructional Development Program
Asst. to Dir. Special Services
Broadcast Services
Electronic Media
Instructional Research & Development
Instructional Television
Educational Media Services
Instructional Photo/Grahpics Producations
Motion Picture Production

Figure 3. Division of Instructional Services, Brigham Young University, Provo, Utah

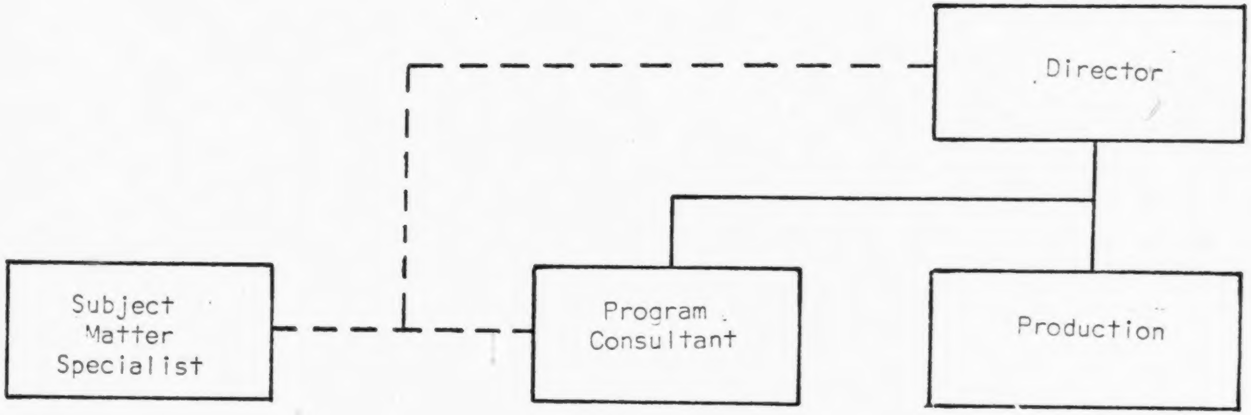

Director
Production
Program Consultant
Subject Matter Specialist

Figure 4. Central Michigan University, Mount Pleasant, Michigan

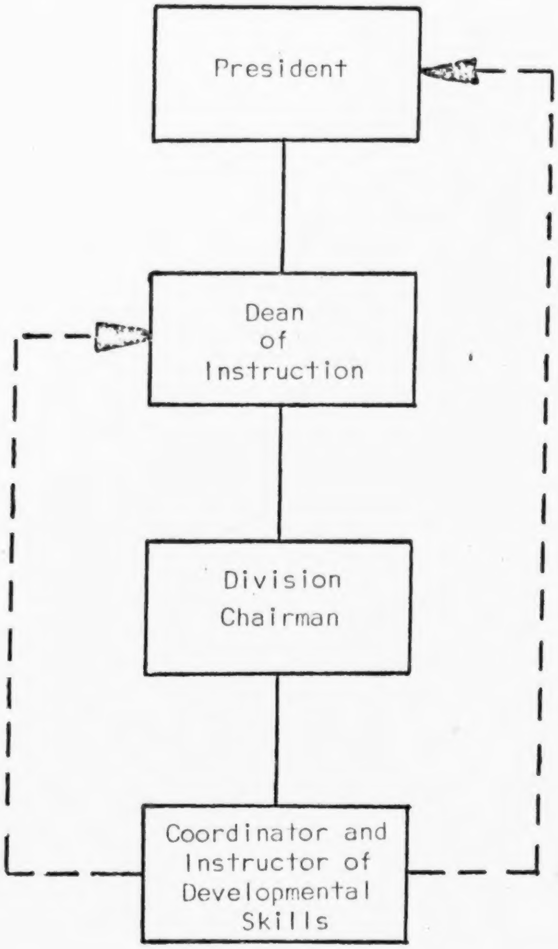

President
Dean of Instruction
Division Chairman
Coordinator and Instructor of Developmental Skills

Figure 5. Chesapeake College, Wye Mills, Maryland

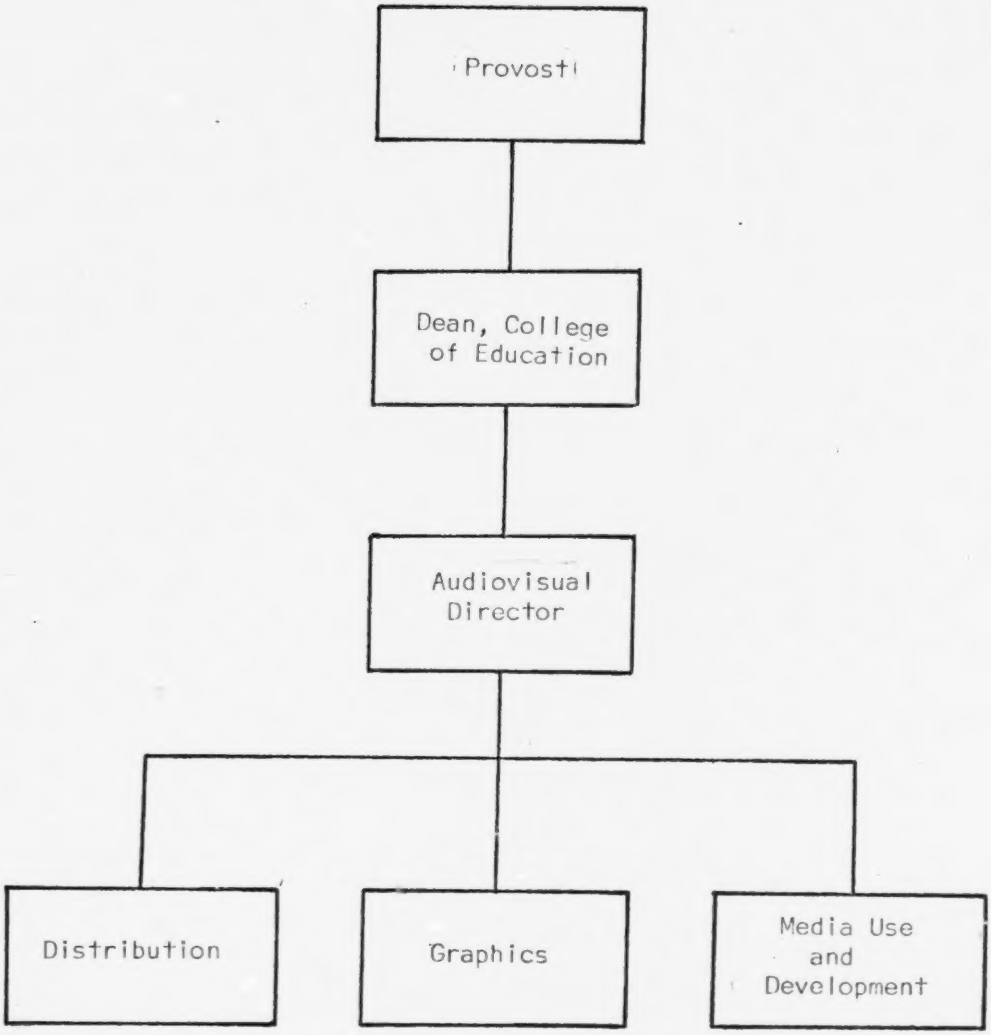

Provost
Dean, College of Education
Audiovisual Director
Distribution
Graphics
Media Use and Development

Figure 6. University of Connecticut, Storrs, Connecticut

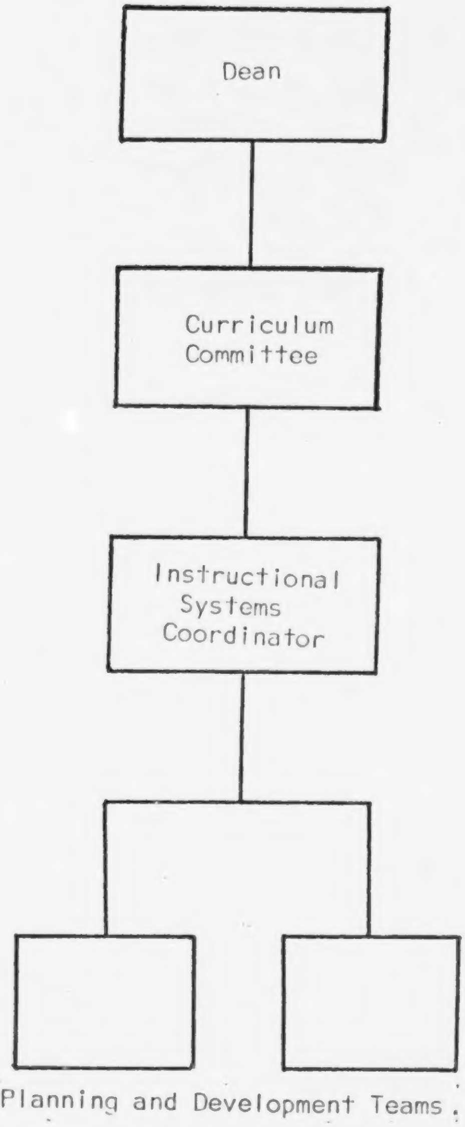

Dean
Curriculum Committee
Instructional Systems Coordinator
Planning and Development Teams

Figure 7. College of Dentistry, University of Florida, Gainesville, Florida

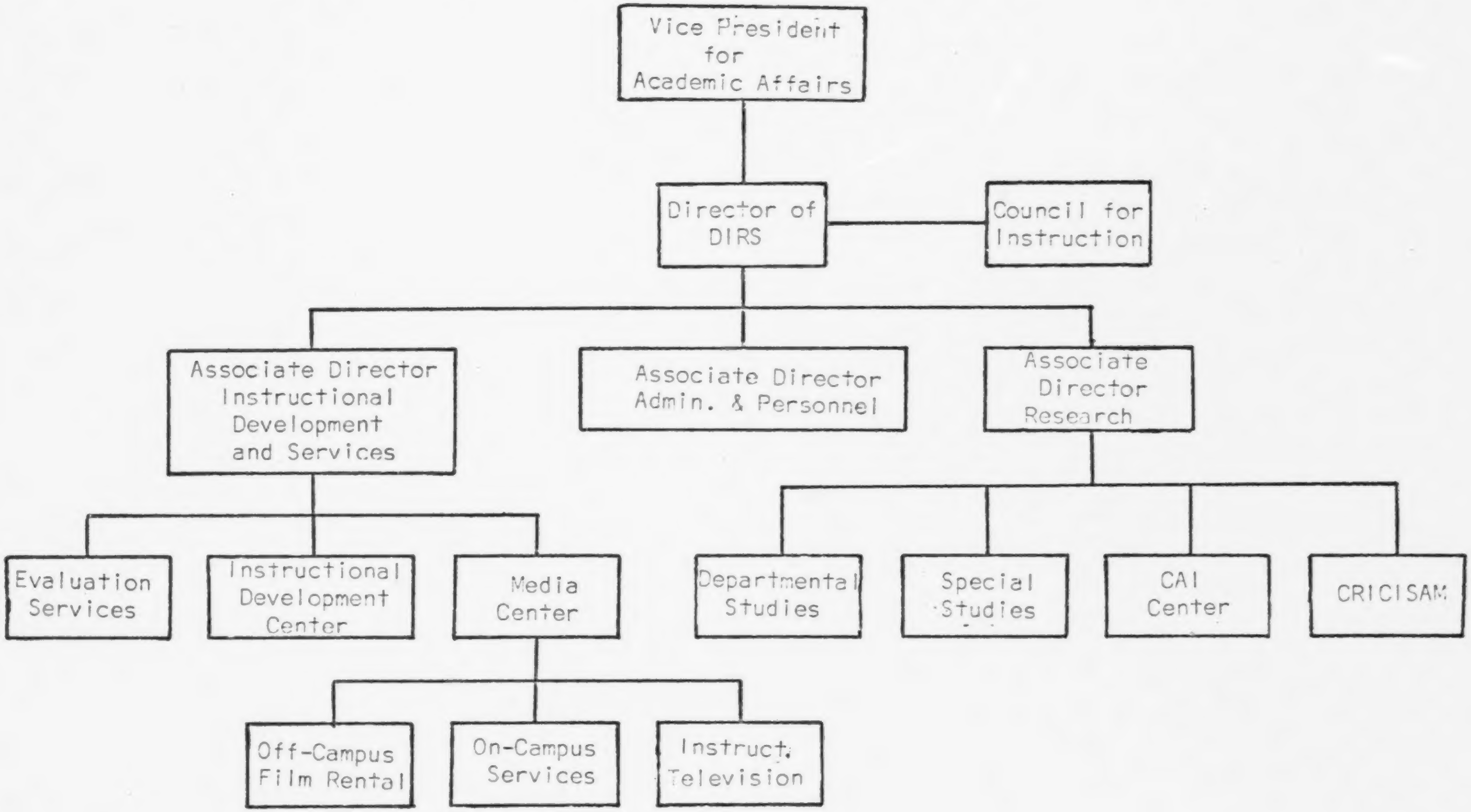

Vice President for Academic Affairs
Director of DIRS
Council for Instruction
Associate Director Instructional Development and Services
Associate Director Admin. & Personnel
Associate Director Research
Evaluation Services
Instructional Development Center
Media Center
Departmental Studies
Special Studies
CAI Center
CRICISAM
Off-Campus Film Rental
On-Campus Services
Instruct. Television

Figure 8. Division of Instructional Research and Service, Florida State University, Tallahassee, Florida

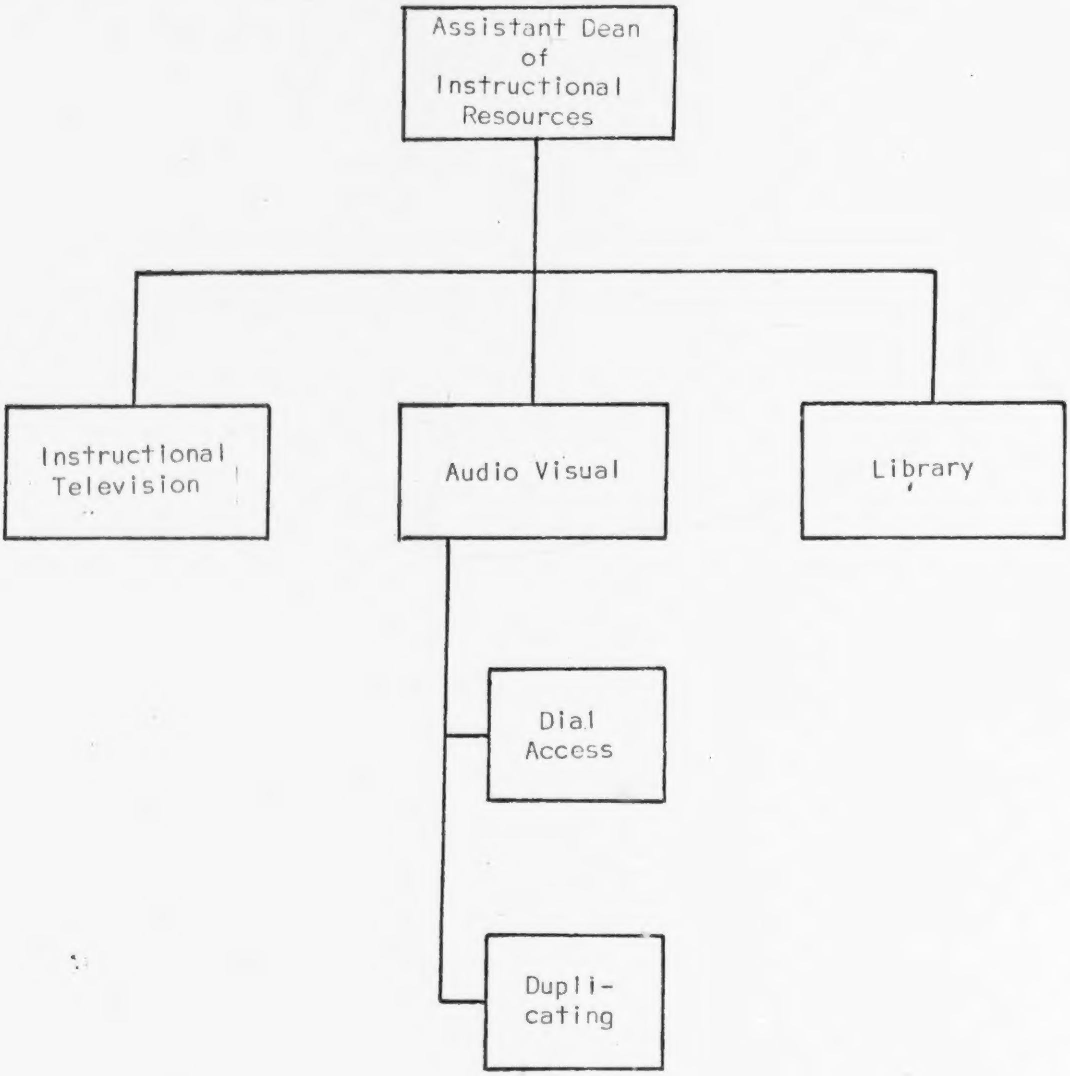

Assistant Dean of Instructional Resources
Instructional Television
Audio Visual
Library
Dial Access
Duplicating

Figure 9. Forest Park Community College, St. Louis, Missouri

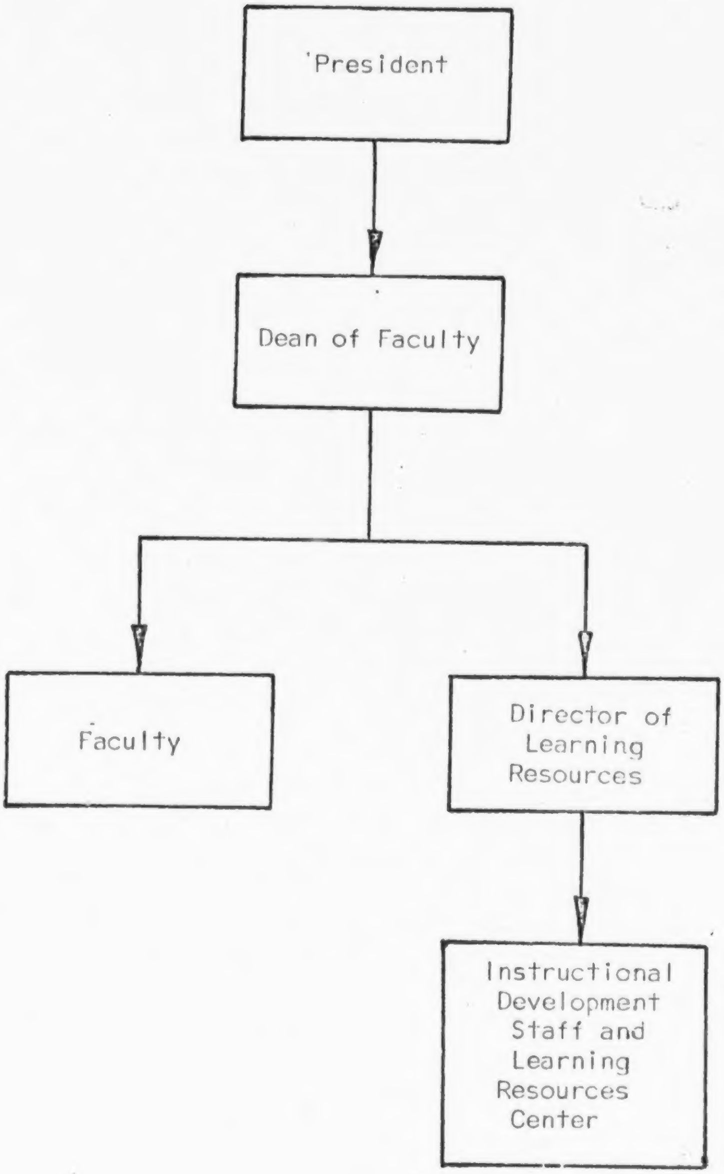

President
Dean of Faculty
Faculty
Director of Learning Resources
Instructional Development Staff and Learning Resources Center

Figure 10. Howard Community College, Columbia, Maryland

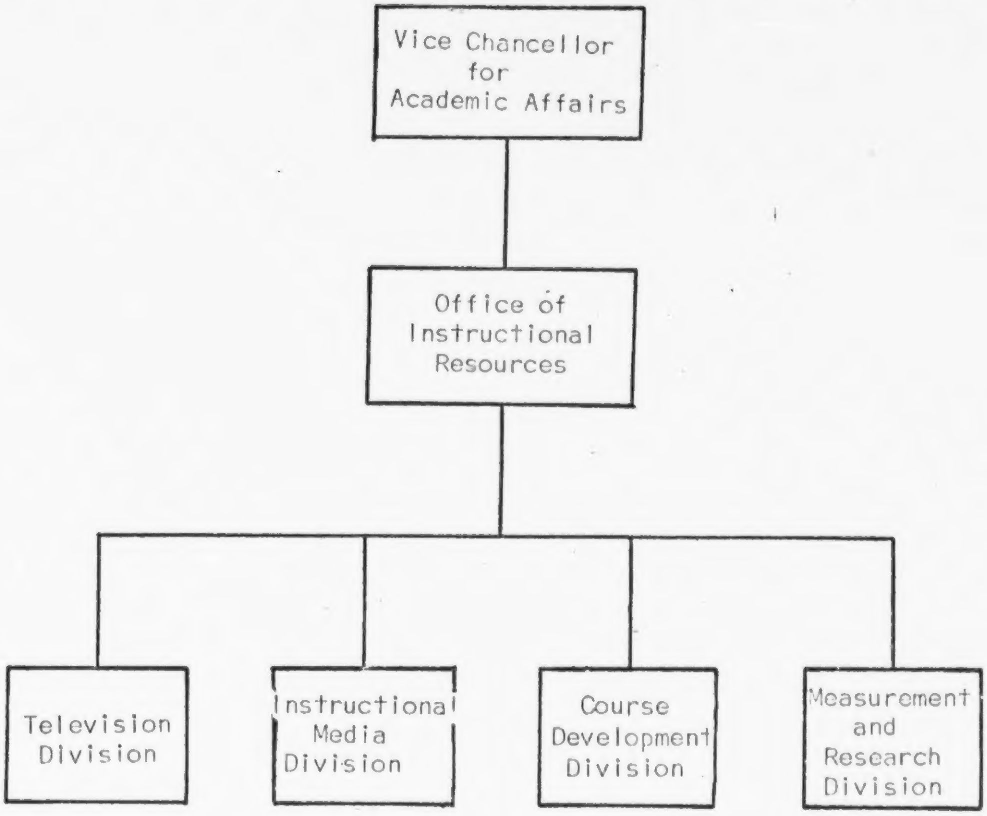

Vice Chancellor for Academic Affairs
Office of Instructional Resources
Television Division
Instructional Media Division
Course Development Division
Measurement and Research Division

Figure II. University of Illinois, Urbana, Illinois

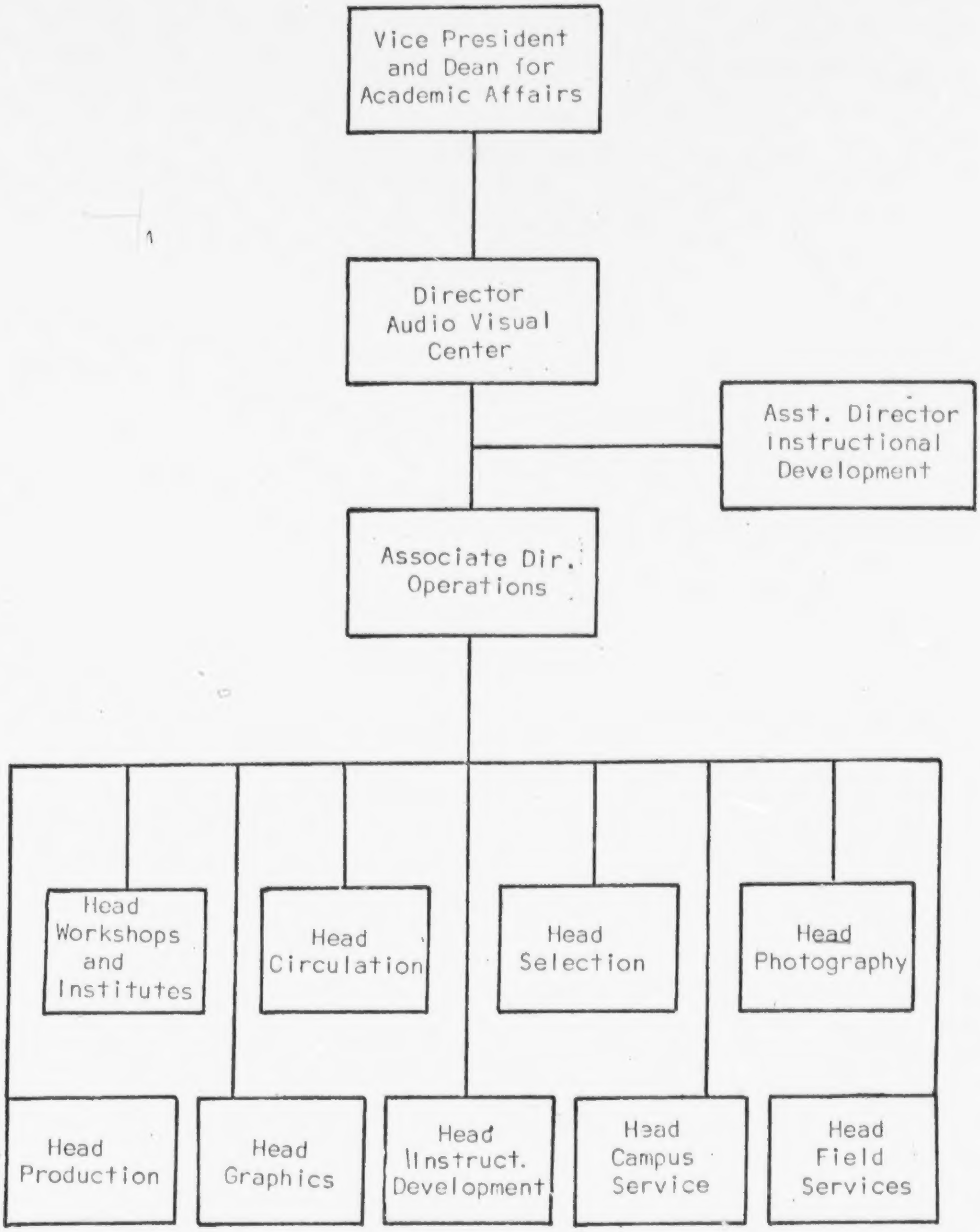

Vice President and Dean for Academic Affairs
Director Audio Visual Center
Asst. Director Instructional Development
Associate Dir. Operations
Head Workshops and Institutes
Head Circulation
Head Selection
Head Photography
Head Production
Head Graphics
Head Instruct. Development
Head Campus Service
Head Field Services

Figure 12. Audio Visual Center, Indiana University, Bloomington, Indiana

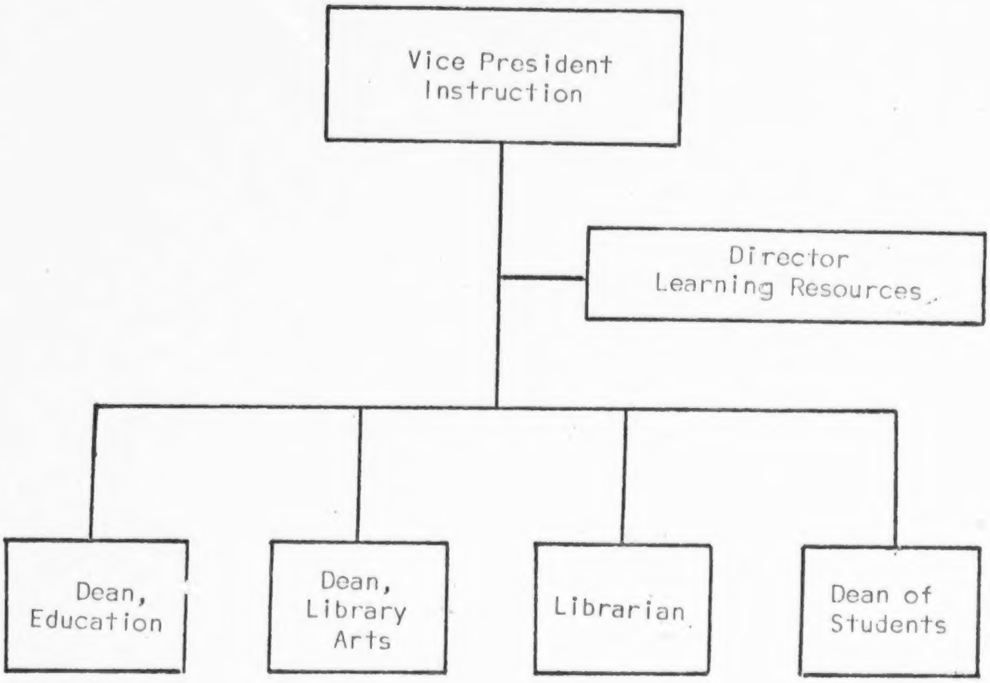

Vice President
Instruction
Director
Learning Resources
Dean,
Education
Dean,
Library
Arts
Librarian
Dean of
Students

Figure 13. Lock Haven State, Lock Haven, Pennsylvania

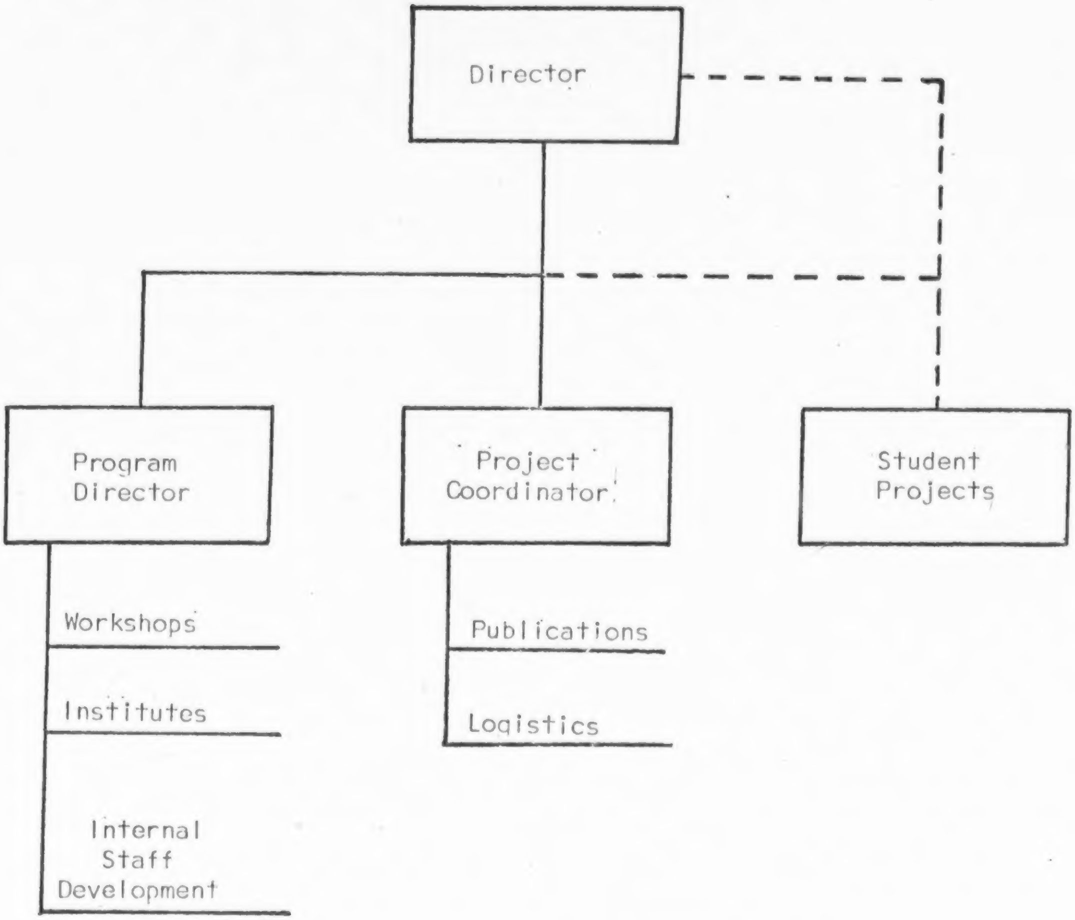

Director
Program Director
Project Coordinator
Student Projects
Workshops
Institutes
Internal Staff Development
Publications
Logistics

Figure 14. University of Michigan, Ann Arbor, Michigan

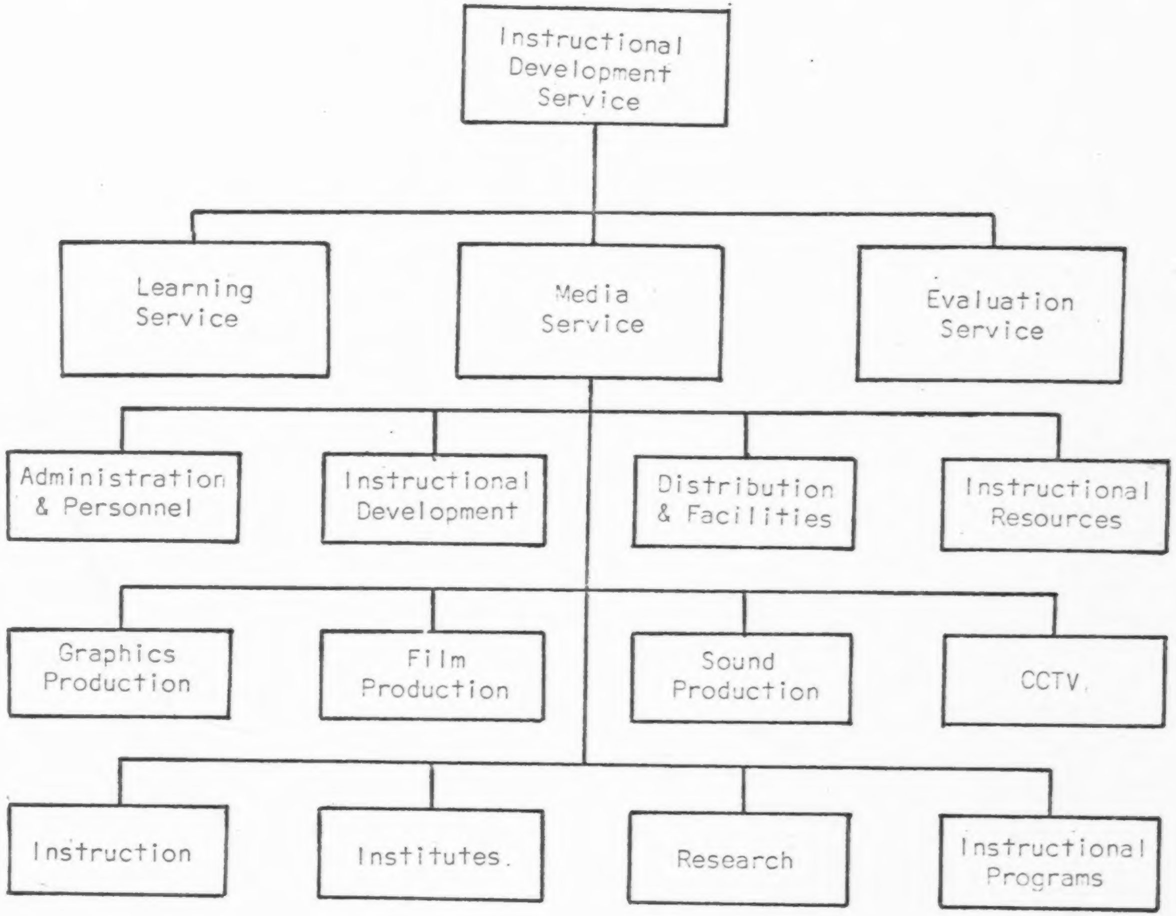

Instructional Development Service
Learning Service
Media Service
Evaluation Service
Administration & Personnel
Instructional Development
Distribution & Facilities
Instructional Resources
Graphics Production
Film Production
Sound Production
CCTV
Instruction
Institutes
Research
Instructional Programs

Figure 15. Instructional Development Service, Michigan State University, East Lansing, Michigan

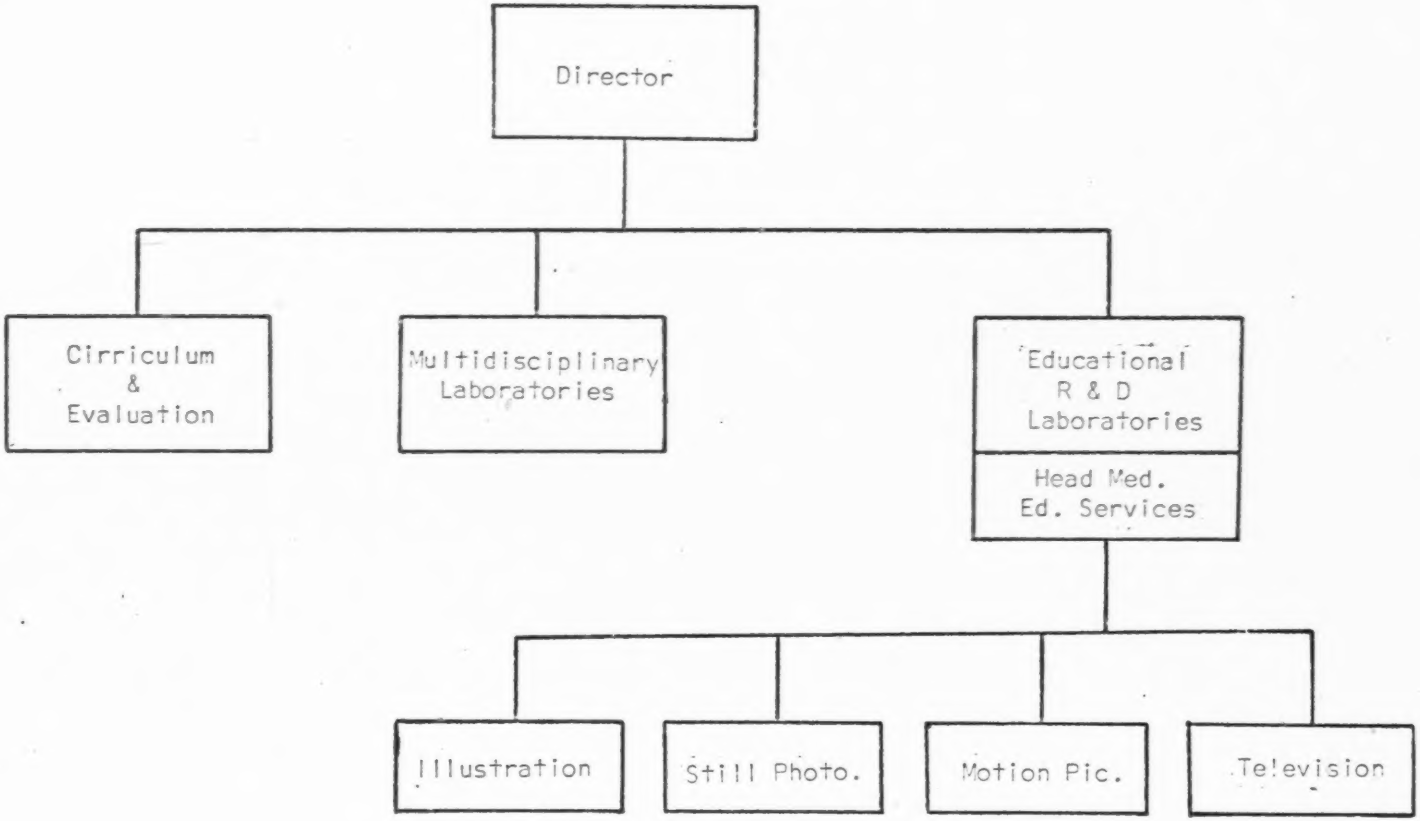

Director
Cirriculum
&
Evaluation
Multidisciplinary
Laboratories
Educational
R & D
Laboratories
Head Med.
Ed. Services
Illustration
Still Photo.
Motion Pic.
Television

Figure 16. Educational Resources Group, School of Medicine, University of Missouri, Columbia

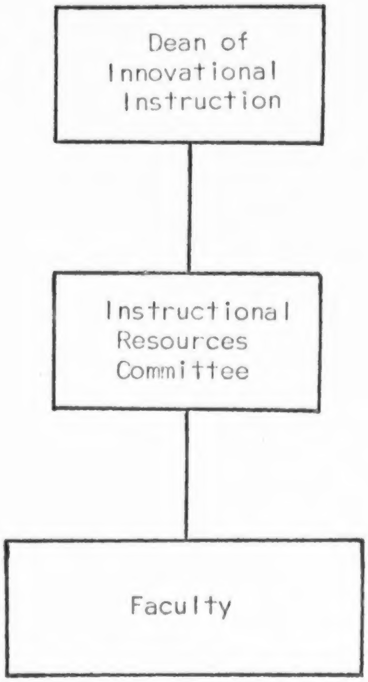

Dean of
Innovational
Instruction
Instructional
Resources
Committee
Faculty

Figure 17. Northampton County Area Community College, Bethlehem, Pennsylvania

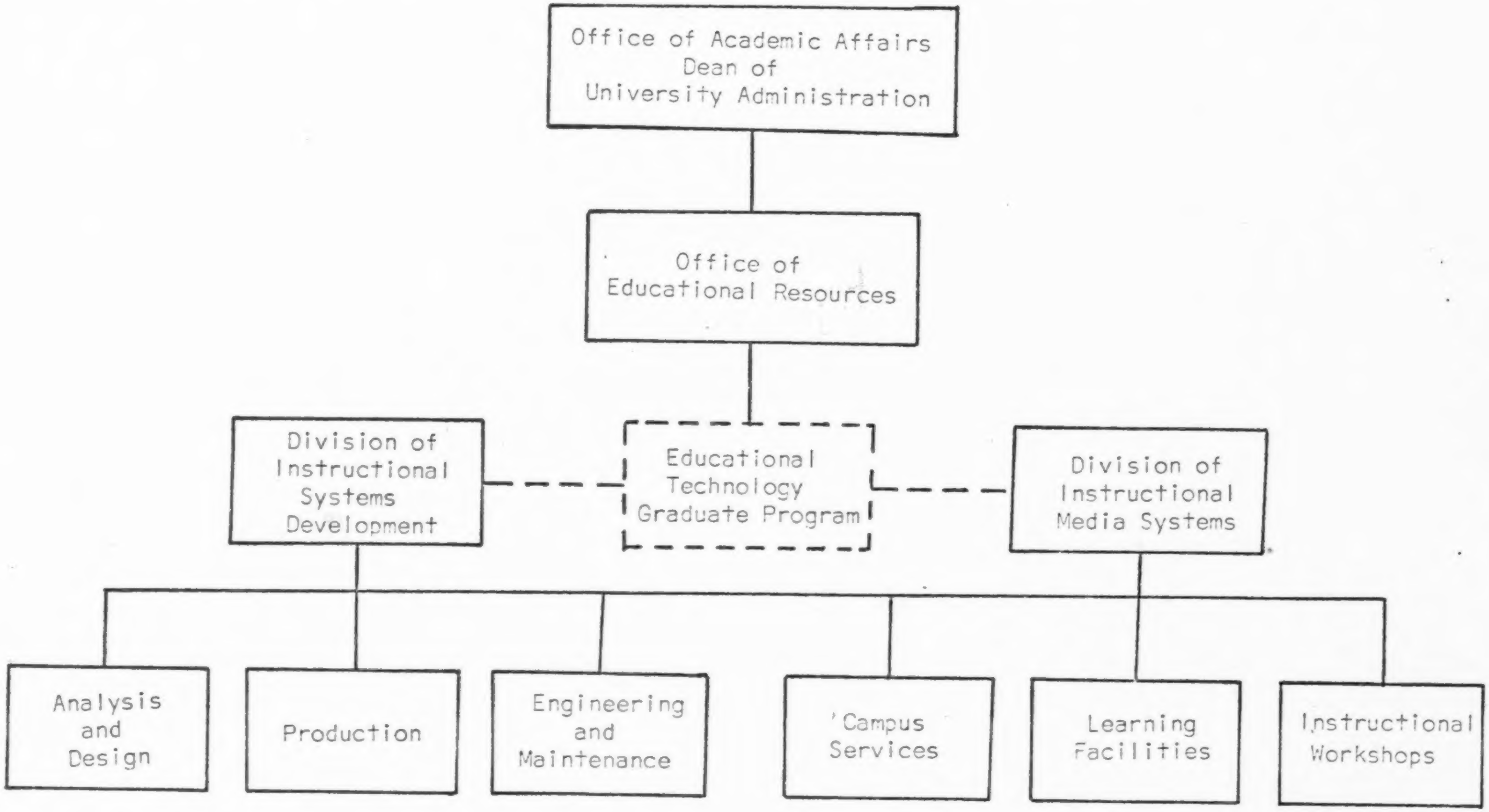

Office of Academic Affairs
Dean of
University Administration
Office of
Educational Resources
Educational
Technology
Graduate Program
Division of
Instructional
Systems
Development
Division of
Instructional
Media Systems
Analysis
and
Design
Production
Engineering
and
Maintenance
'Campus
Services
Learning
Facilities
Instructional
Workshops

Figure 18. Office of Educational Resources, Northeastern University, Boston, Massachusetts

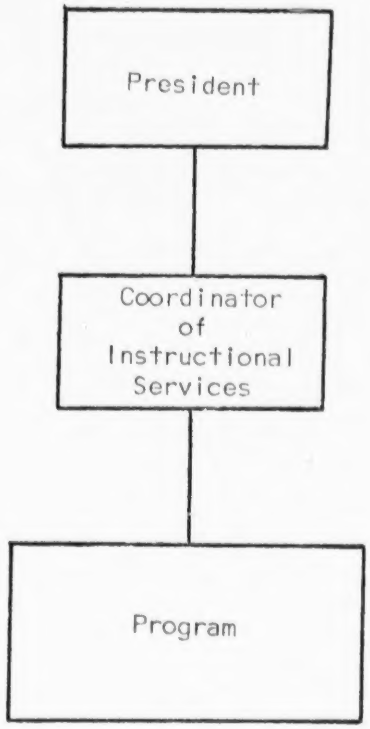

President
Coordinator of Instructional Services
Program

Figure 19. Northern Virginia Community College, Annandale, Virginia

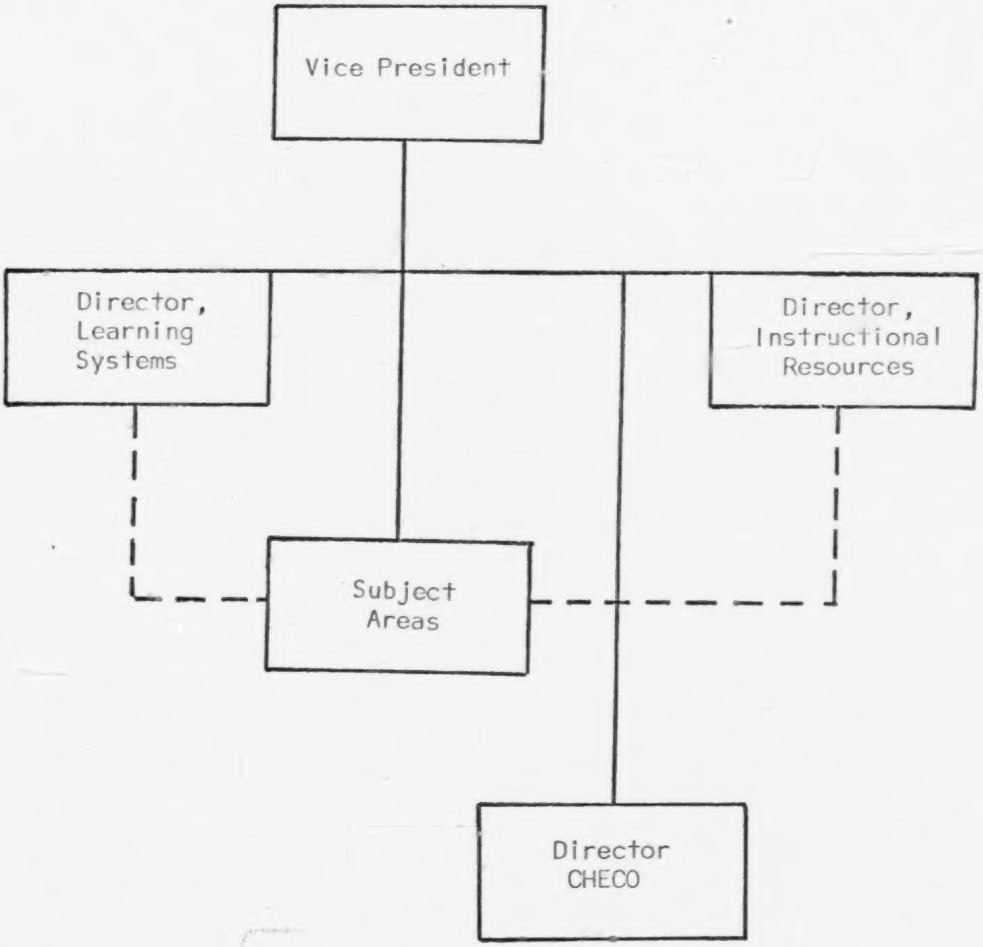

Vice President
Director, Learning Systems
Director, Instructional Resources
Subject Areas
Director CHECO

Figure 20. Oakland Community College, Bloomfield Hills, Michigan

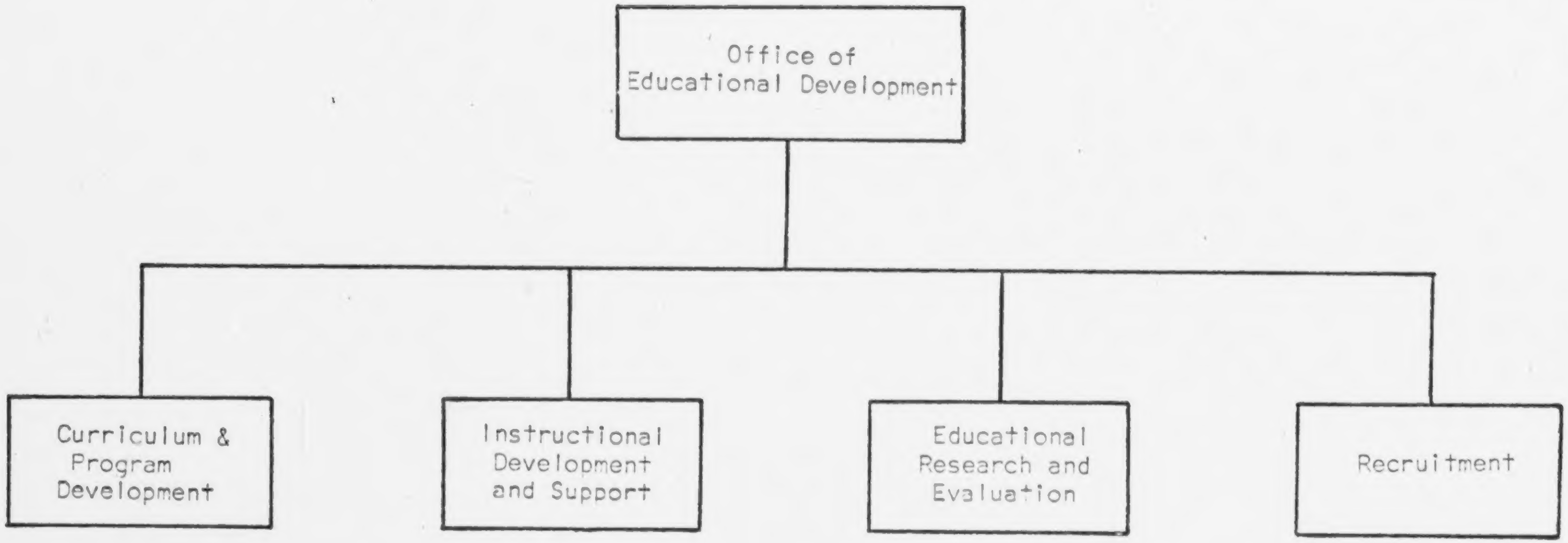

Office of Educational Development
Curriculum & Program Development
Instructional Development and Support
Educational Research and Evaluation
Recruitment

Figure 21. Office of Educational Development, College of Pharmacy, Ohio State University, Columbus, Ohio

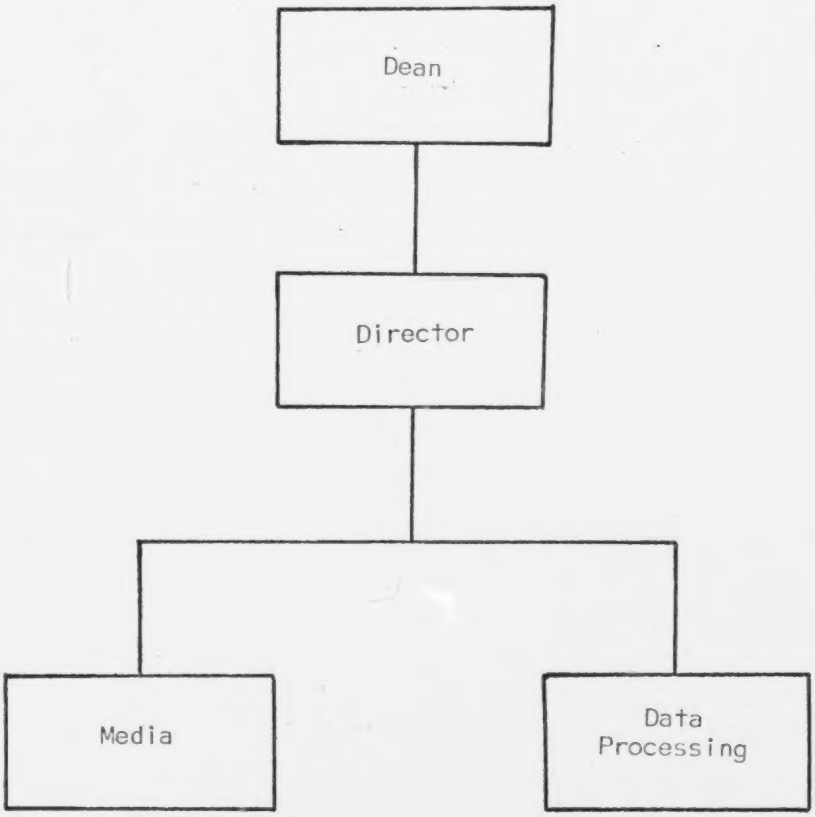

Dean
Director
Media
Data Processing

Figure 22. Graduate School of Business, Peperdine University, Los Angeles, California

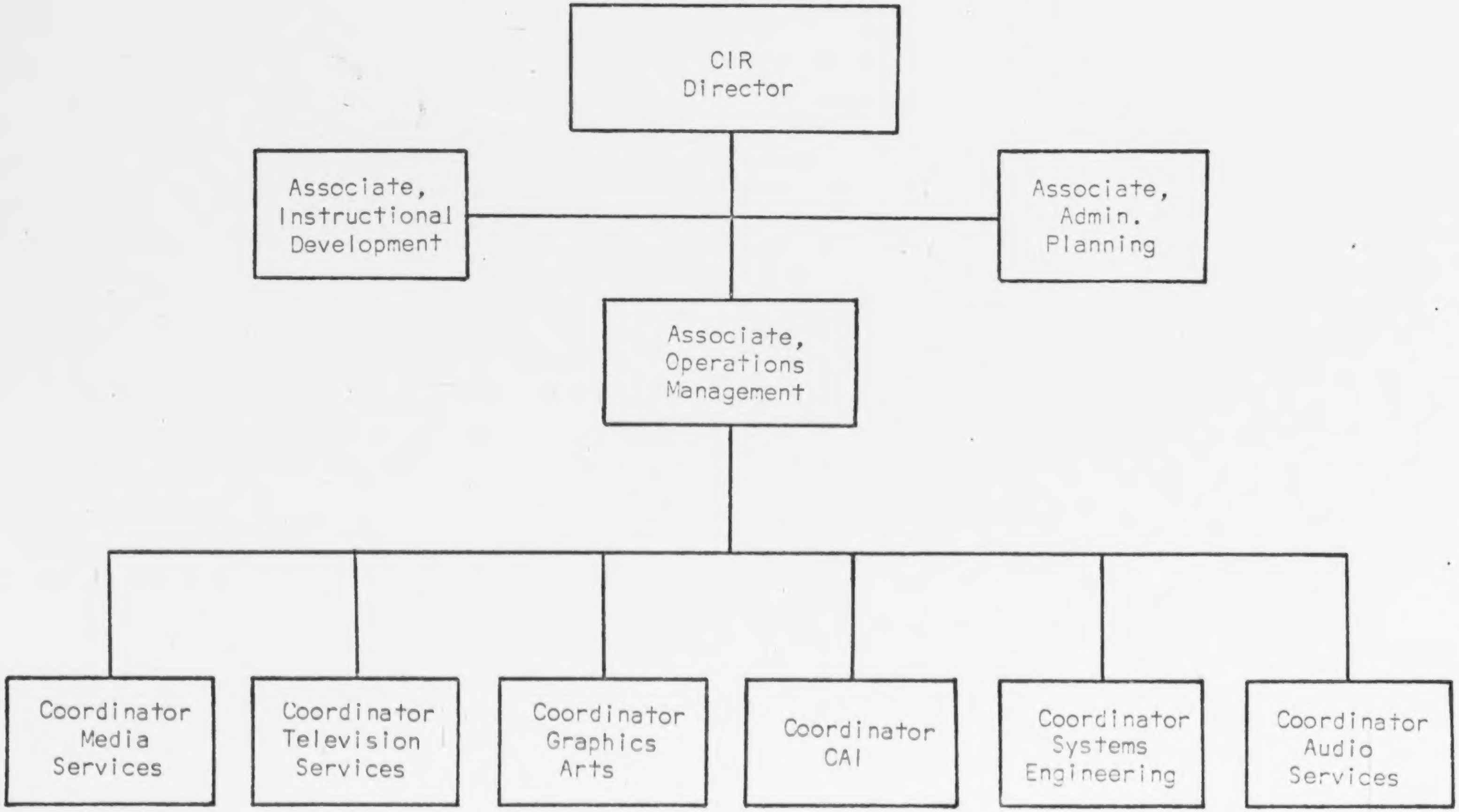

CIR
Director
Associate,
Instructional
Development
Associate,
Admin.
Planning
Associate,
Operations
Management
Coordinator
Media
Services
Coordinator
Television
Services
Coordinator
Graphics
Arts
Coordinator
CAI
Coordinator
Systems
Engineering
Coordinator
Audio
Services

Figure 23. Center for Instructional Resources, State University College, New Paltz, New York

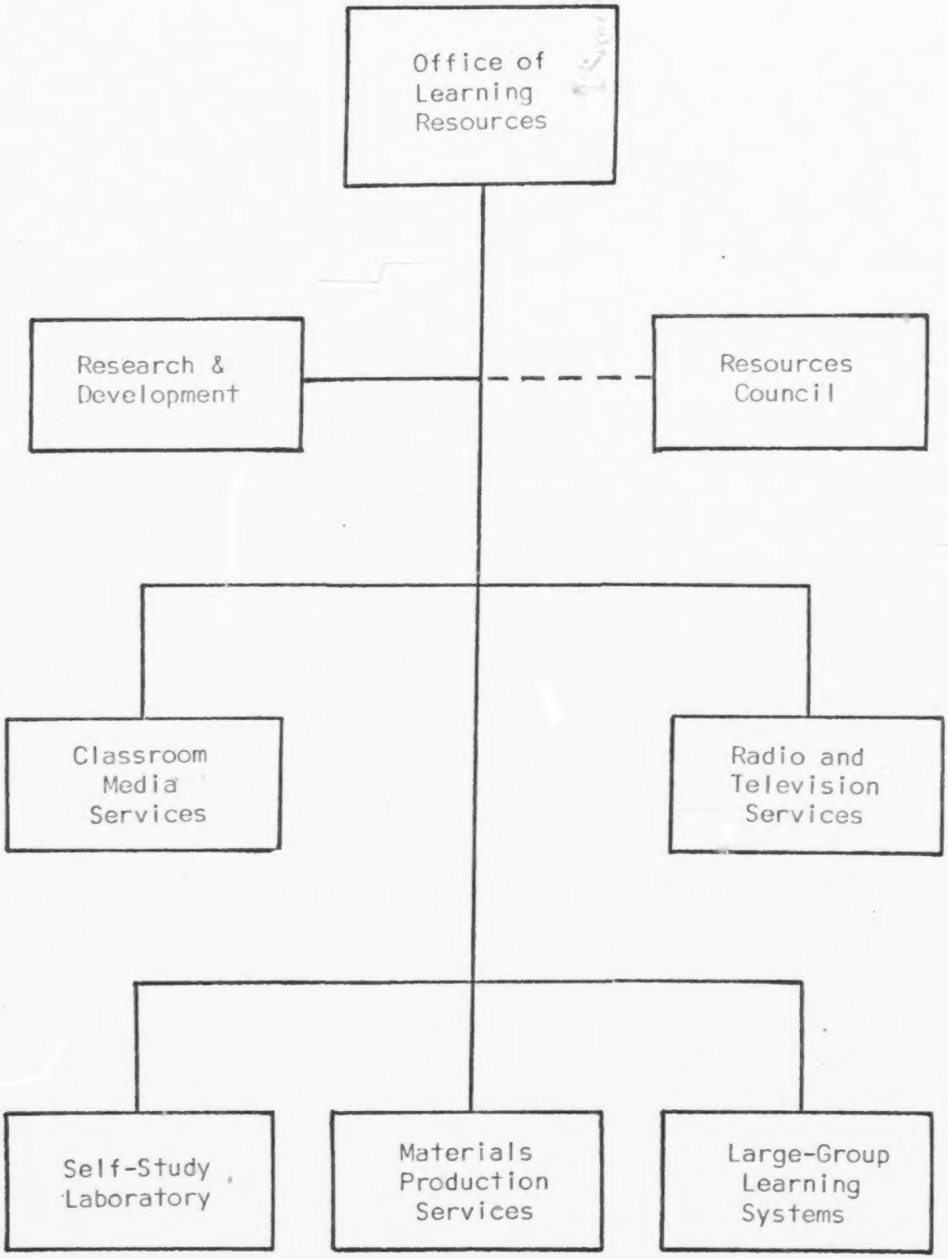

Office of Learning Resources
Research & Development
Resources Council
Classroom Media Services
Radio and Television Services
Self-Study Laboratory
Materials Production Services
Large-Group Learning Systems

Figure 24. State University College, Oswego, New York

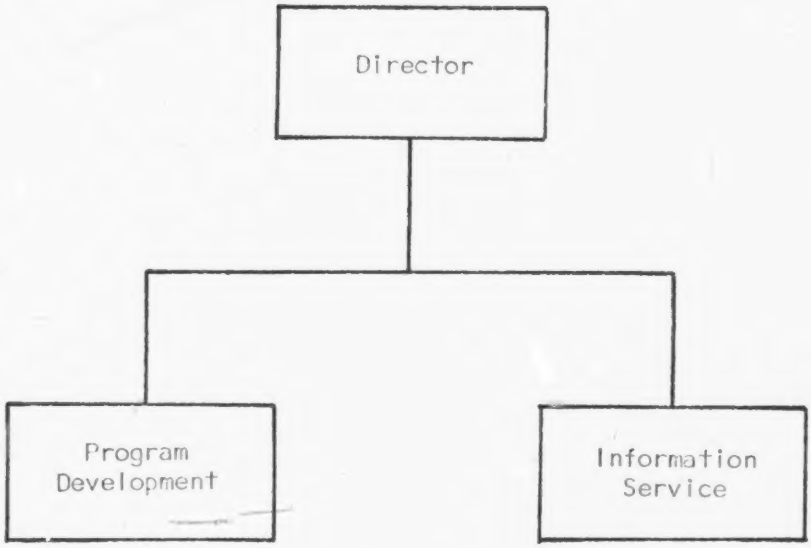
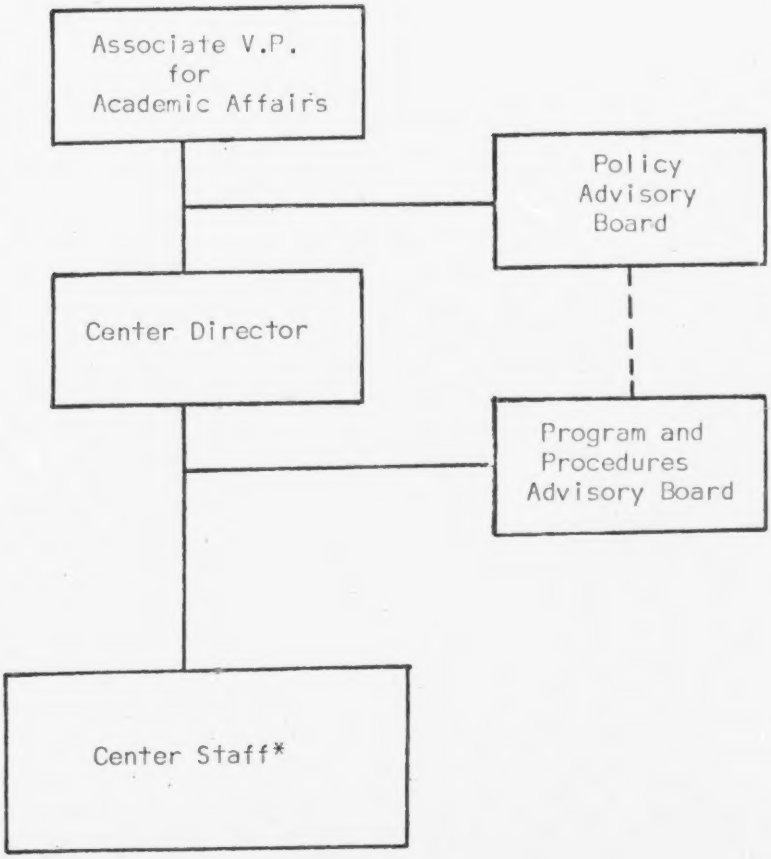

Director
Program Development
Information Service

Table 25. Stout State University, Menomonie, Wisconsin


Associate V.P. for Academic Affairs
Policy Advisory Board
Center Director
Program and Procedures Advisory Board
Center Staff*

*Actual staffing pattern and organization not to be determined for 1-2 years to permit establishing of objectives and procedures beforehand.

Figure 26. Center to Improve Learning and Instruction, University of Utah, Salt Lake City, Utah

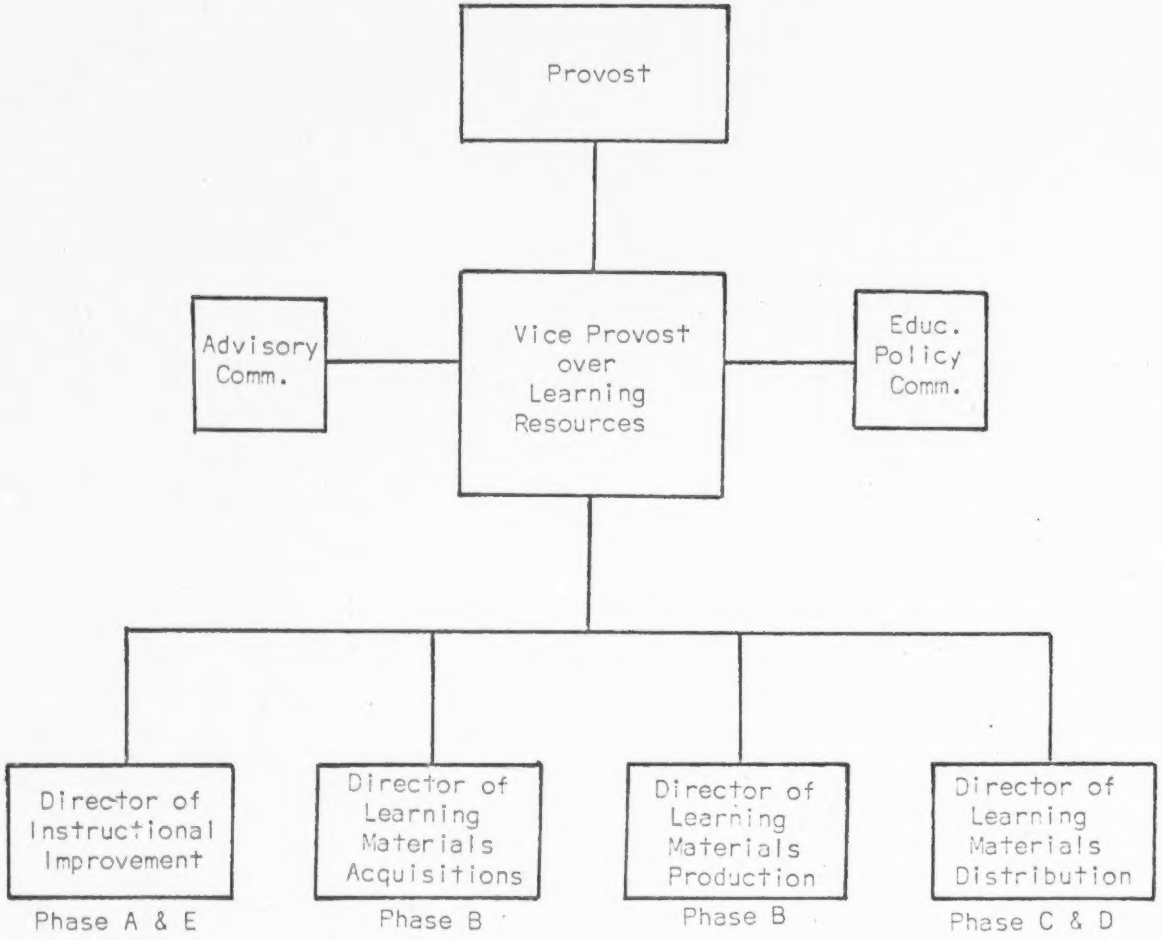

Provost
Advisory Comm.
Vice Provost over Learning Resources
Educ. Policy Comm.
Director of Instructional Improvement
Phase A & E
Director of Learning Materials Acquisitions
Phase B
Director of Learning Materials Production
Phase B
Director of Learning Materials Distribution
Phase C & D

Figure 27. Utah State University, Logan, Utah

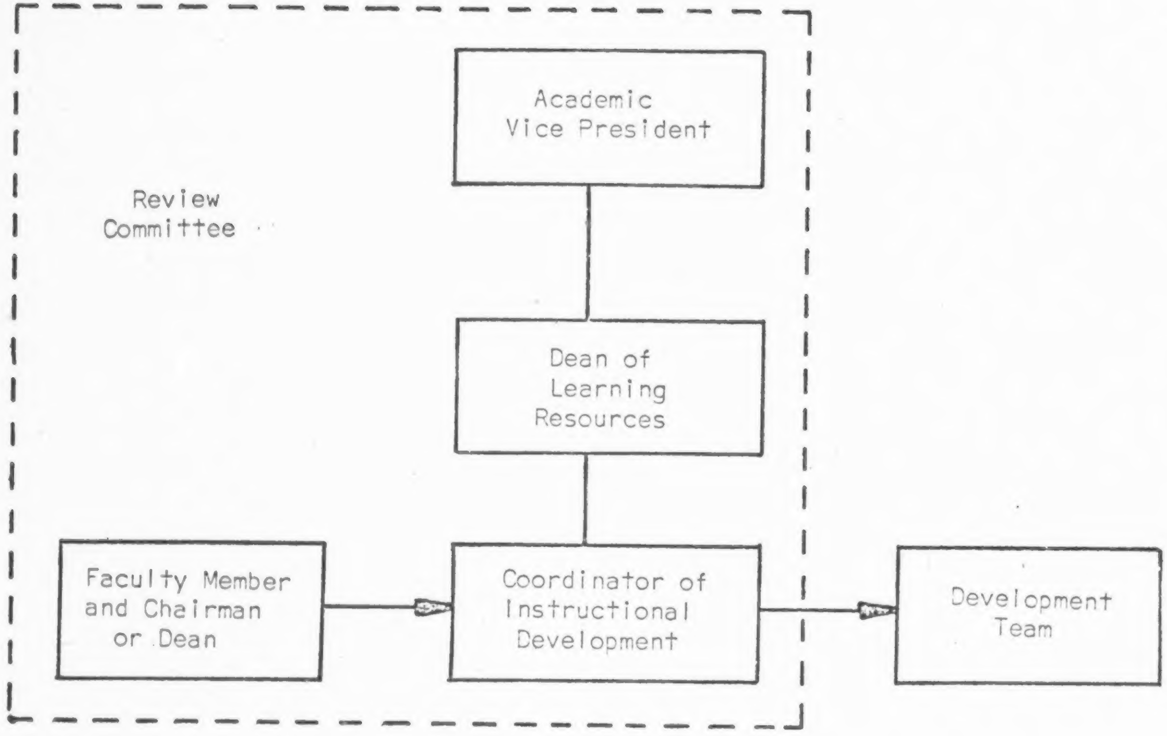

Review
Committee
Academic
Vice President
Dean of
Learning
Resources
Faculty Member
and Chairman
or Dean
Coordinator of
Instructional
Development
Development
Team

Figure 28. Division of Learning Resources, Weber State College, Ogden, Utah

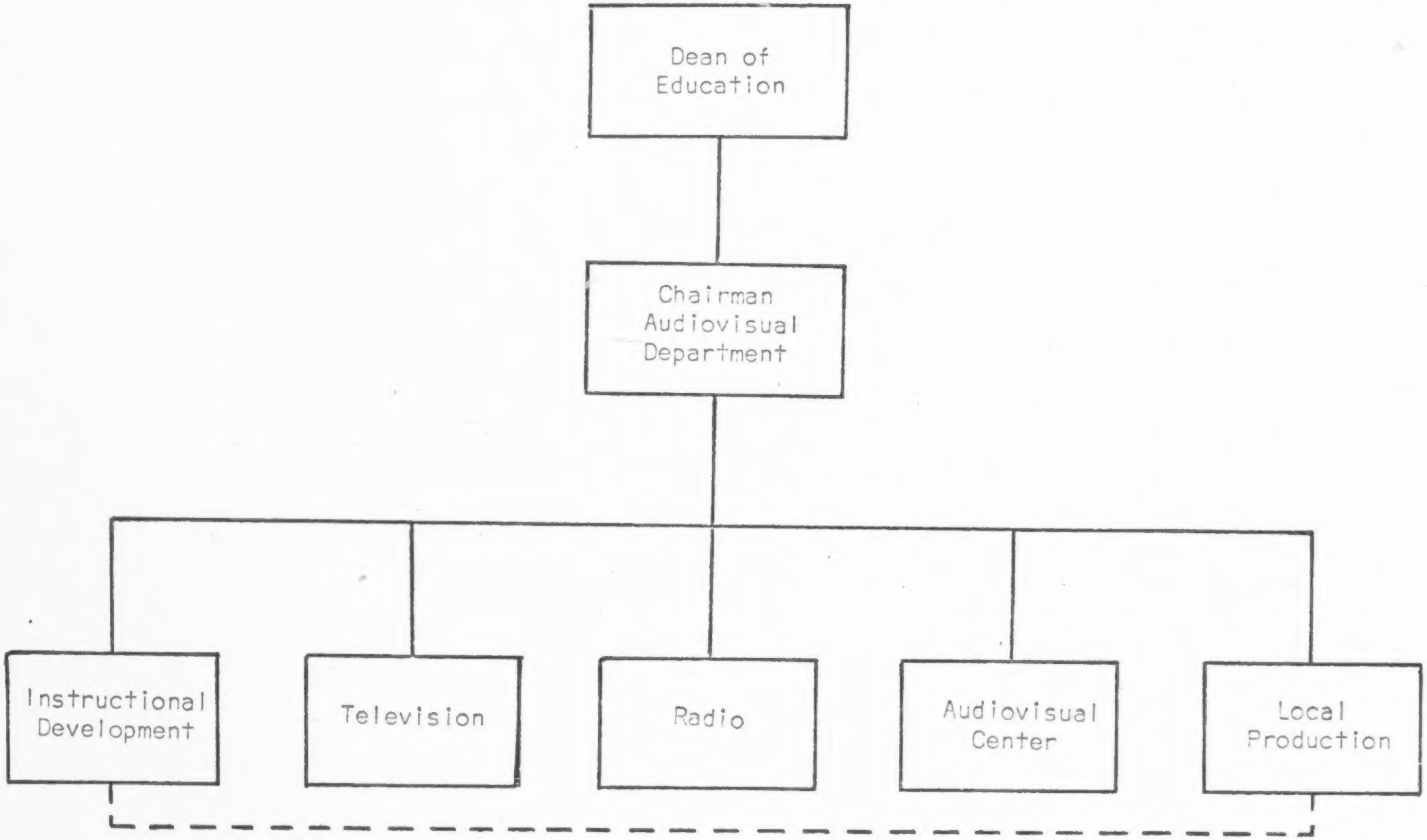

Dean of Education
Chairman Audiovisual Department
Instructional Development
Television
Radio
Audiovisual Center
Local Production

Figure 29. Western Illinois University, Macomb, Illinois

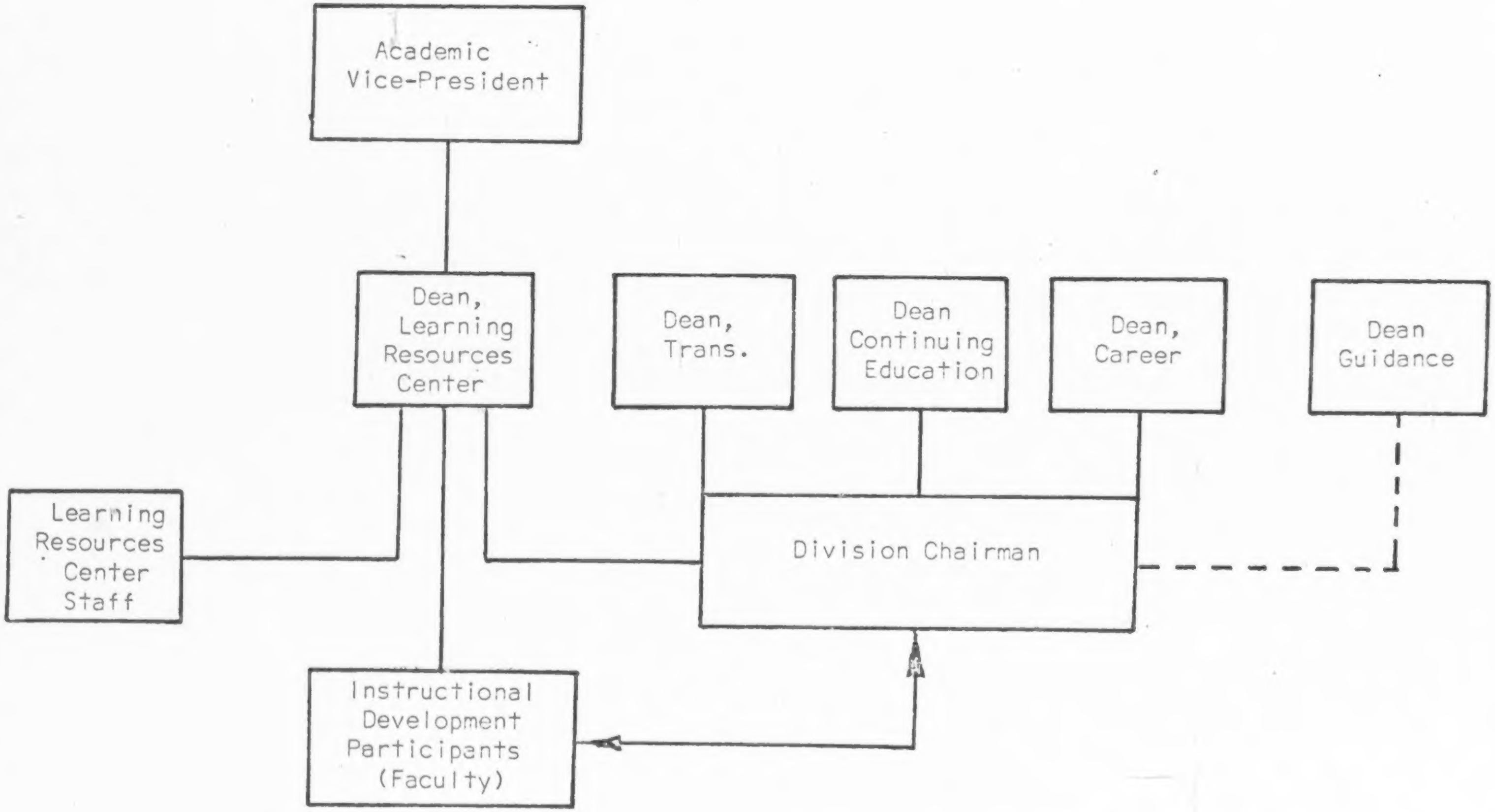

Academic Vice-President
Dean, Learning Resources Center
Dean, Trans.
Dean Continuing Education
Dean, Career
Dean Guidance
Learning Resources Center Staff
Division Chairman
Instructional Development Participants (Faculty)

Figure 30. William Rainey Harper College, Palatine, Illinois

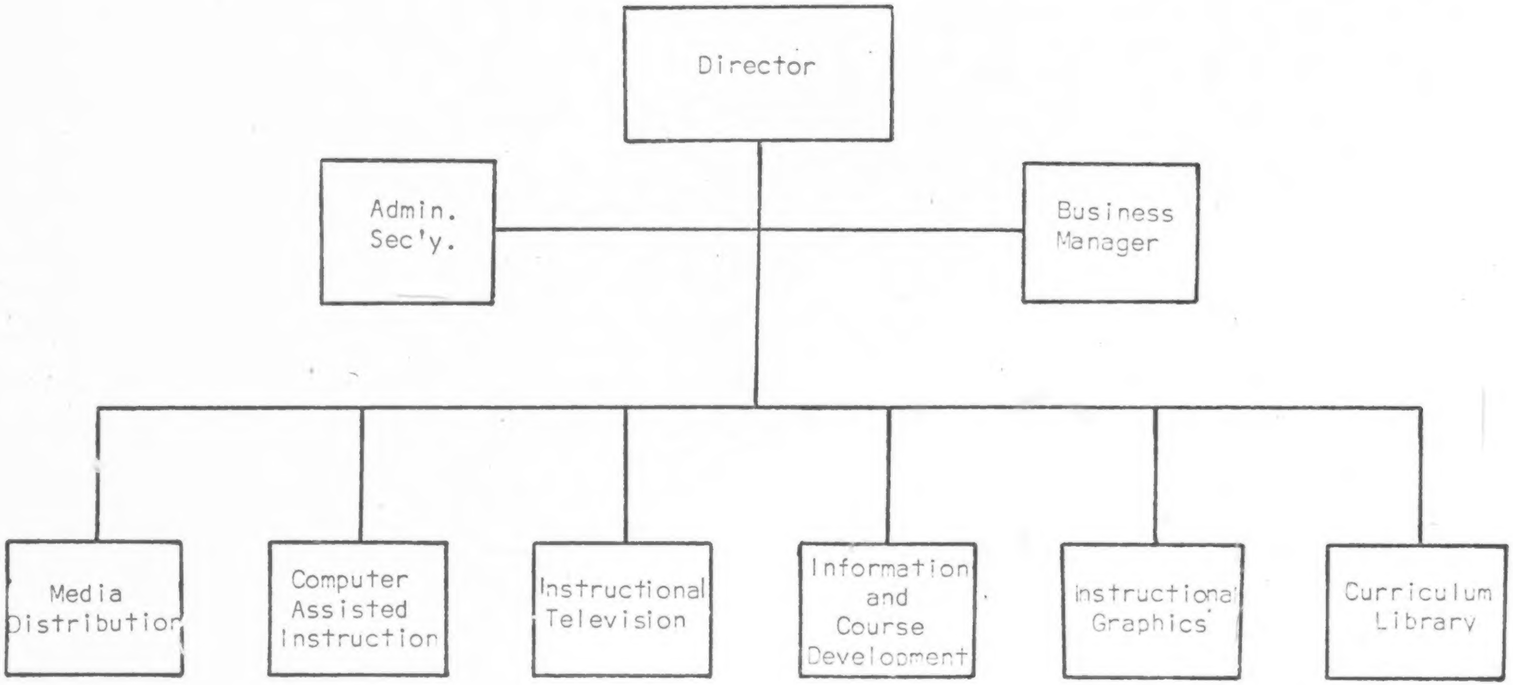

Director
Admin. Sec'y.
Business Manager
Media Distribution
Computer Assisted Instruction
Instructional Television
Information and Course Development
Instructional Graphics
Curriculum Library

Figure 31. Instructional Media Laboratory, The University of Wisconsin, Milwaukee, Wisconsin

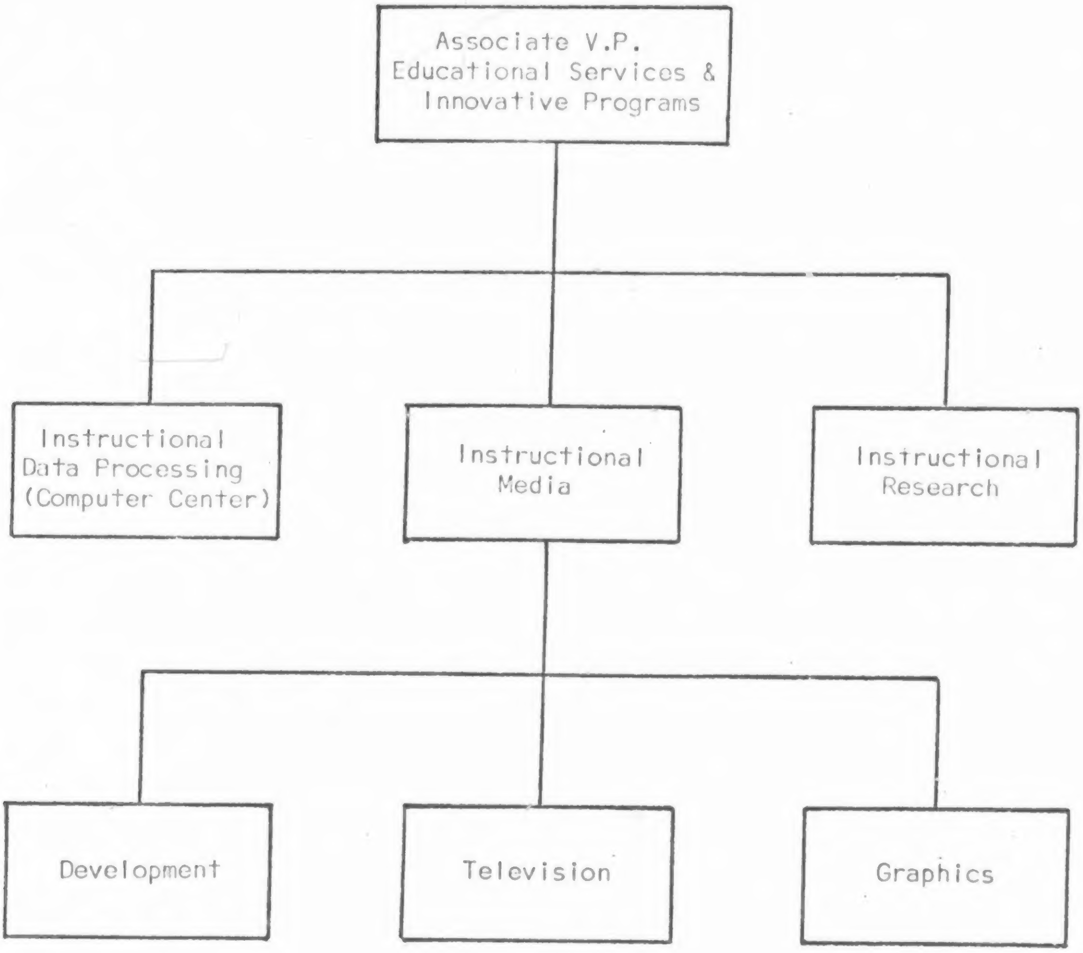

Associate V.P.
Educational Services &
Innovative Programs
Instructional
Data Processing
(Computer Center)
Instructional
Media
Instructional
Research
Development
Television
Graphics

Figure 32. Wisconsin State University, Stevens Point, Wisconsin

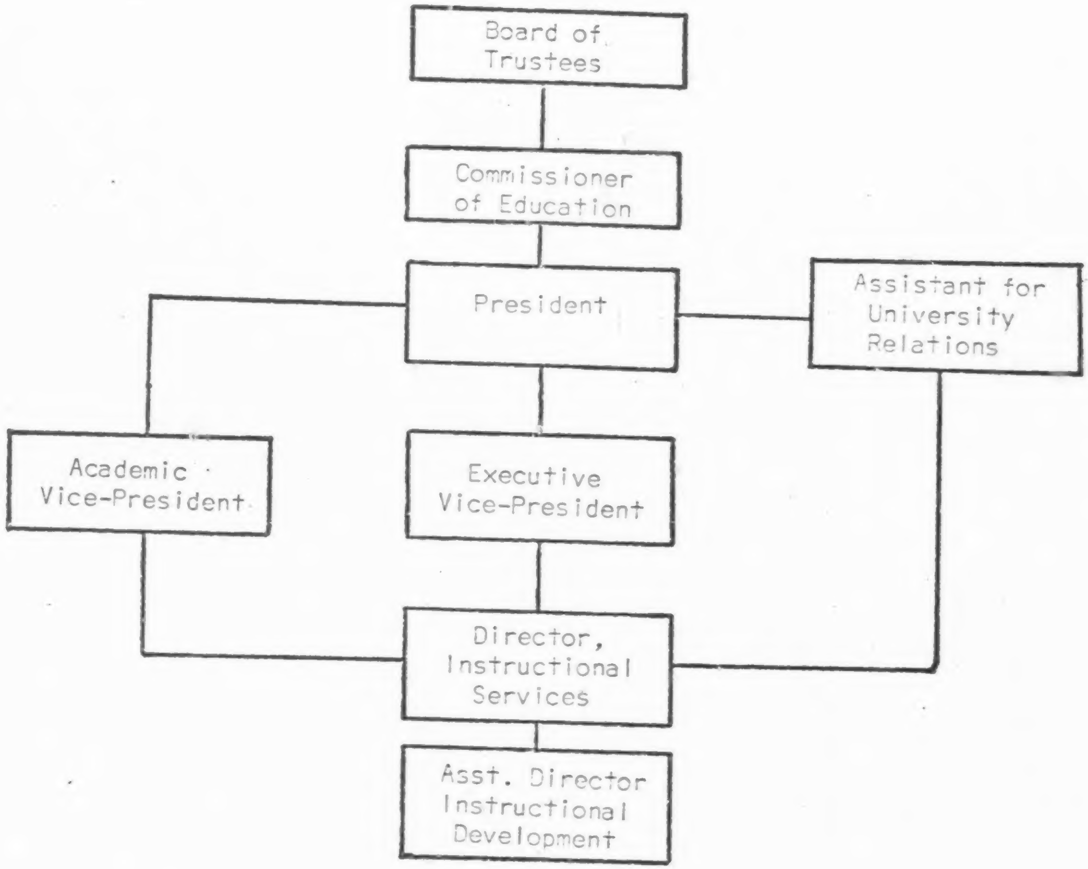

Board of Trustees
Commissioner of Education
President
Assistant for University Relations
Academic Vice-President
Executive Vice-President
Director, Instructional Services
Asst. Director Instructional Development

Figure 33. Brigham Young University, Provo, Utah

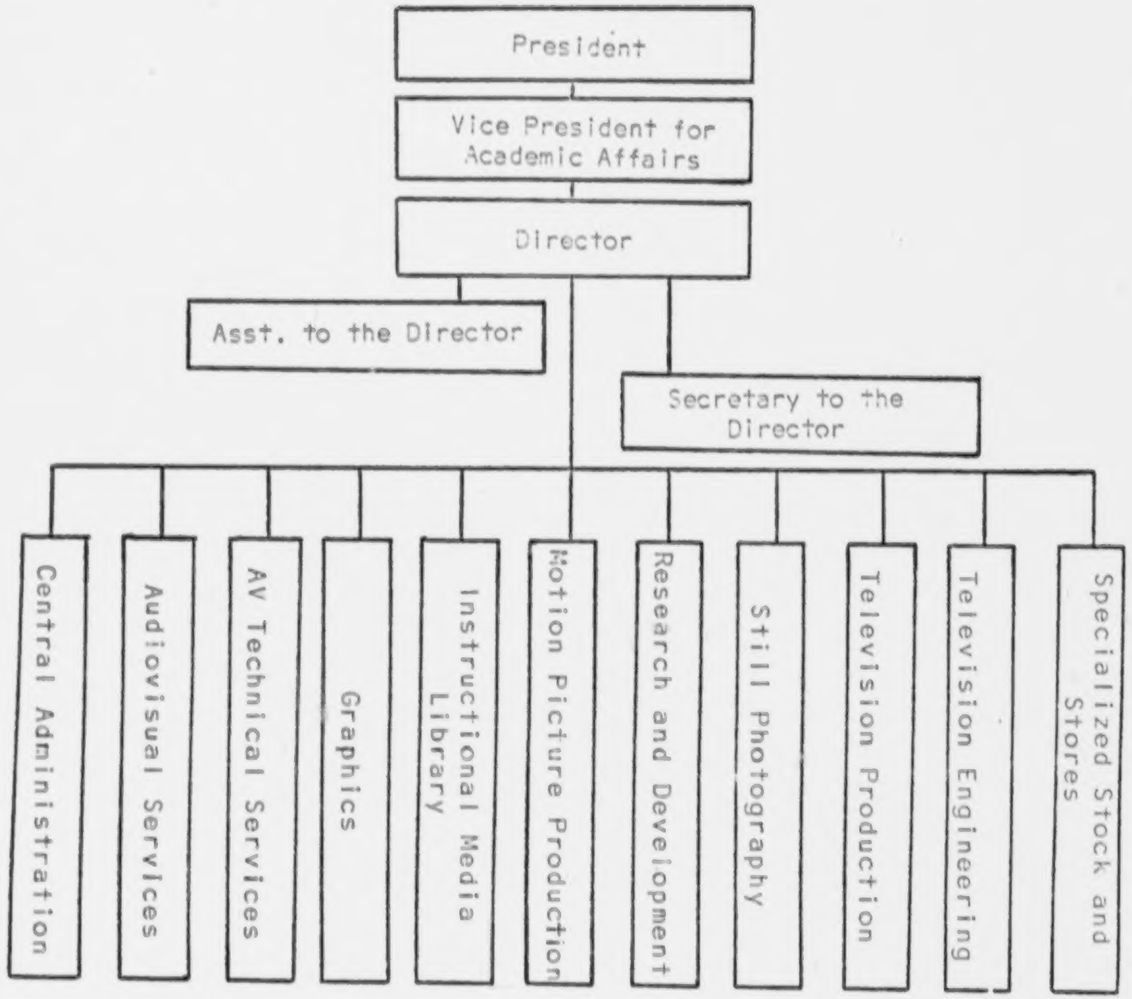

President
Vice President for Academic Affairs
Director
Asst. to the Director
Secretary to the Director
Central Administration
Audiovisual Services
AV Technical Services
Graphics
Instructional Media Library
Motion Picture Production
Research and Development
Still Photography
Television Production
Television Engineering
Specialized Stock and Stores

Figure 34. Academic Communications Facility, University of California, Los Angeles

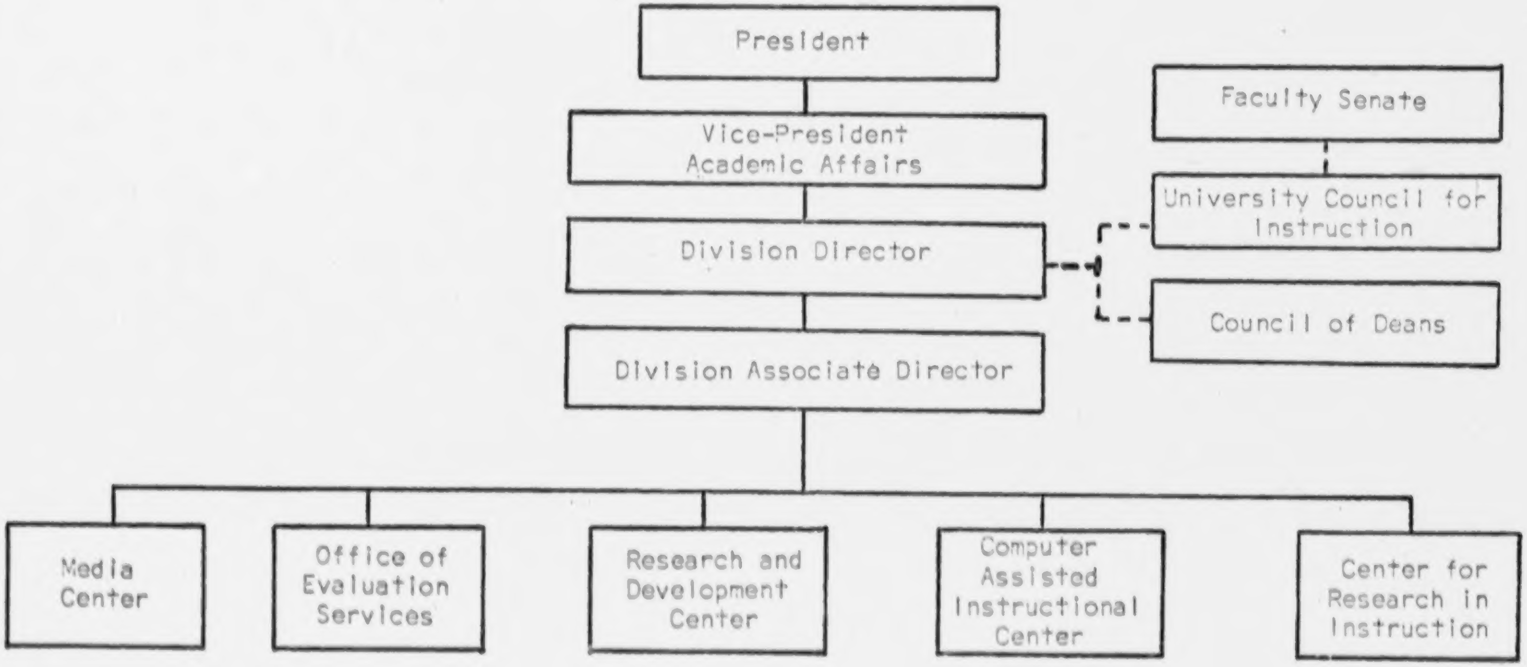

President
Vice-President
Academic Affairs
Division Director
Division Associate Director
Faculty Senate
University Council for
Instruction
Council of Deans
Media
Center
Office of
Evaluation
Services
Research and
Development
Center
Computer
Assisted
Instructional
Center
Center for
Research in
Instruction

Figure 35. Division of Instructional Research and Service, Florida State University, Tallahassee

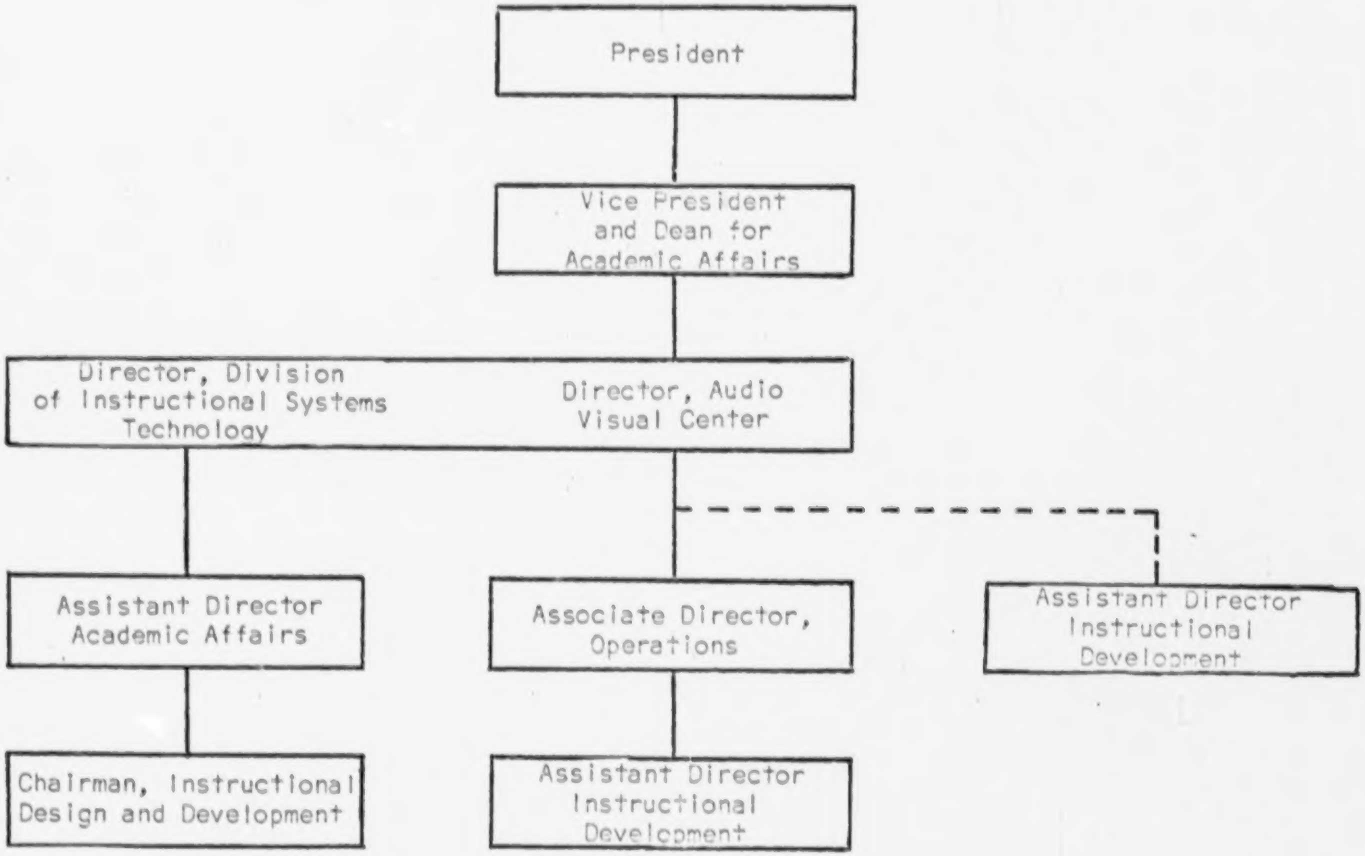

President
Vice President and Dean for Academic Affairs
Director, Division of Instructional Systems Technology
Director, Audio Visual Center
Assistant Director Academic Affairs
Associate Director, Operations
Assistant Director Instructional Development
Chairman, Instructional Design and Development
Assistant Director Instructional Development

Figure 36. AVC/DIST, Indiana University, Bloomington

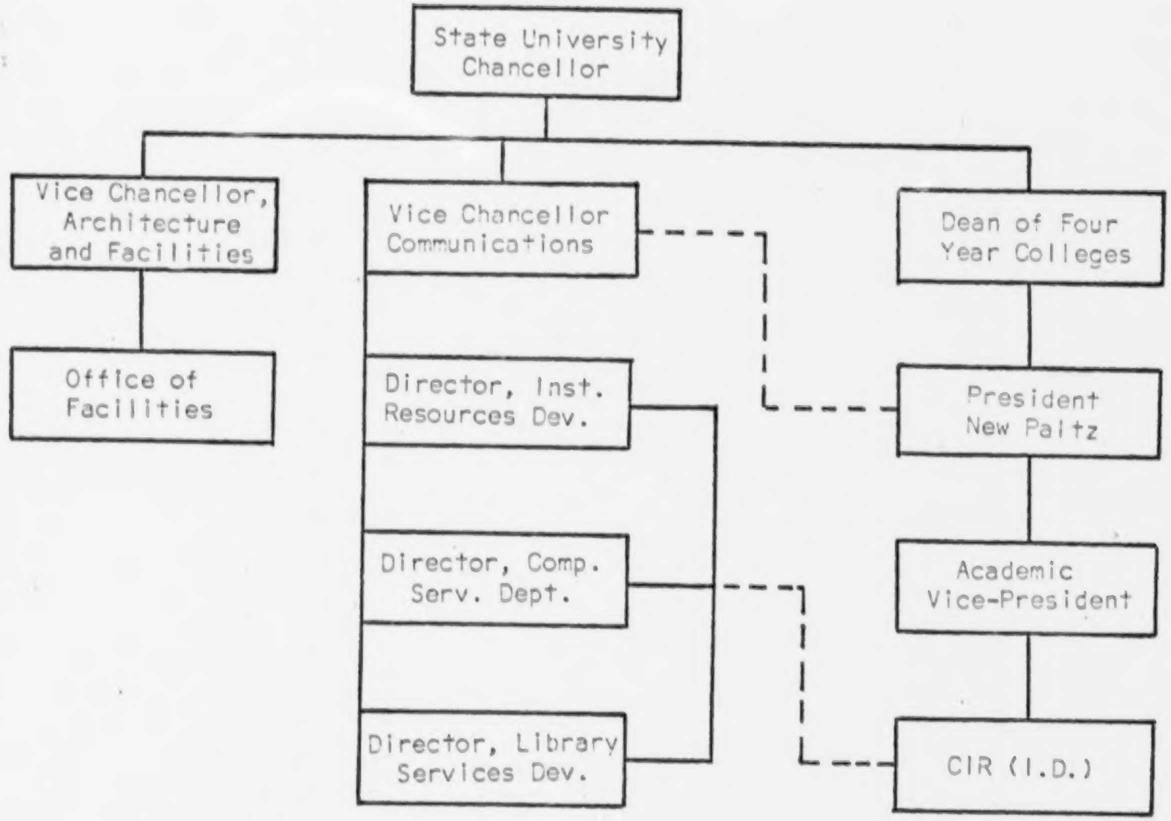

State University Chancellor
Vice Chancellor, Architecture and Facilities
Office of Facilities
Vice Chancellor Communications
Director, Inst. Resources Dev.
Director, Comp. Serv. Dept.
Director, Library Services Dev.
Dean of Four Year Colleges
President New Paltz
Academic Vice-President
CIR (I.D.)

Figure 37. State University, New Paltz, New York

Committees and Advisory Boards

This question in its original form--which among other things called for information on the title or designation, composition or membership, purpose and authority, and frequence of meeting of advisory boards, committees, IDP teams and related entities--proved to be too complex (as demonstrated by a 39 percent no-response rate) to permit proper answering or accurate analysis. It was, therefore, simplified in its interpretation to provide merely an indication of the existence of committees and advisory boards. Considering only those respondents that answered this question, 60 percent indicated the presence of advisory boards and 30 percent have committees to help guide the instructional development program. Only 10 percent indicated that the "project team" approach was used in their development activities without outside advisement.

Existing Director Control

Respondents were asked to rate the control that their development director had over seven elements of their program. The scale ranged from "no-control" (1), to "advisory" (3), to "automony" (5).

For the consistency with the way other findings are reported, percentage figures will be given; however, the mean of the responses will also be given for those who find this statistic a more convenient method of interpreting the results.

Director control over participating faculty members. In 16 percent of the programs the control that the program director had over faculty members that participated in his program was absolute--i.e., the director exercised "autonomy" in the relationship. In 24 percent of the programs the role of the director was "advisory" in nature and in 22 percent of the cases it was in between "advisory" and "autonomous." Eight percent of the programs indicated that their director had no control and 10 percent stated that the amount of control was between "none" and "advisory." The statistical mean of those responding was 3.35, closer to the "advisory" mode of control than any other.

Director control over selection of projects. With regard to what control the director exercises in the selection of projects, he exercises "autonomy" in 34 percent of the programs and was "advisory" in 18 percent of the cases. In 26 percent of the programs inventoried his control was in between "advisory" and "autonomy" and in 4 percent it was between "advisory" and "no control." On only 2 percent of the cases was it indicated that the director had no control of this function. The mean of 3.54 was approximately midway between "advisory" and "autonomy" on the scale.

Director control over determination of project approach. Project approach was determined exclusively by the director in 30 percent of the cases; he acted in an advisory capacity 20 percent of the time and in between these functions in 24 percent of the programs. Again in only 2 percent of the programs did he have no control in this regard, and in 6 percent of the programs his control was somewhere between "none" and "advisory." The mean of the responses was 3.90.

Director control over media selection. In 26 percent of the cases the director was autonomous in this function; in 28 percent of the program his influence was advisory only and in another 21 percent it was midway between these two positions. In 2 percent of the programs he had no influence and in 4 percent his influence was between "none" and "advisory." The mean was 3.86.

Director control over media production. Thirty-eight percent of the directors exercised autonomy over media production, presumably these were the instances in which production was an integral element of the development program. In 14 percent of the programs, production control was on an "advisory" basis, suggesting no direct line of control. Midway between advisory and autonomy were 22 percent of the programs. Once again, there was no control in 2 percent of the cases and 4 percent had control described as being between "none" and "advisory." The statistical mean was 4.12.

Director control over validation. While 28 percent of the directors exercised autonomy over validation, another

28 percent had only an advisory relationship. Twelve percent were in between these two in the amount of control they exercised over this function. Six percent had no control and another 6 percent had control somewhere between "none" and "advisory." The mean was 3.62.

Director control over utilization. Twenty percent of the directors exercised autonomy with regard to utilization and 28 percent were advisory in this regard. Eighteen percent exercised control between advisory and autonomy, and 4 percent between advisory and none. Six percent indicated no control over utilization. The mean was 3.55.

Optimum Director Control

In general the responses for this and the next six questions carry a higher incidence of "non-responses" than the series just reported, as the respondents were asked to compare how their current method of operation might be moved toward a more desirable one. Results of this section are compared with the previous one in Table 4.

Control the director should have over participating faculty members. The greatest consistency in this comparison of "how it is now" versus "what it should be like" was shown in the director's control over participating faculty.

Autonomy was again suggested by 16 percent of the respondents; 18 percent wanted advisory, and once more 22 percent indicated a position midway between these two. Ten percent felt that there should be no control over

Table 4

Operational Latitude Within Various Elements of Instructional Development by Percent

Control Director has over	NR*	None (1)	(2)	Advisory (3)	(4)	Advisory (5)	NA**
Participating Faculty	8	8	10	24	22	16	12
Project Selection	4	2	4	18	26	34	12
Project Approach	10	2	6	20	24	36	8
Media Selection	4	2	4	28	26	26	8
Media Production	12	2	4	14	22	38	8
Validation	12	6	6	28	12	28	8
Utilization	10	6	4	28	18	20	14
Control Director should have over							
Participating Faculty	22	10	4	18	22	16	8
Project Selection	26	2	0	18	24	18	12
Project Approach	20	2	0	20	30	20	8
Media Selection	22	2	4	28	18	14	12
Media Production	24	4	2	18	16	28	8
Validation	24	2	4	20	20	24	6
Utilization	28	2	2	28	22	10	8

*= no response
**= not applicable

participating faculty and 4 percent felt that the control should be between "none" and "advisory."

The percent of non-responses was 50 percent greater on this question than on its alternate form. The mean of those that did respond was slightly higher at 3.42.

Control the director should have over the selection of projects. This question carried the highest "no response" as twice as many respondents failed to answer it as the earlier form. The mean of those who did respond was higher however (3.97), as 18 percent suggested "autonomy" and 18 percent recommended "advisory" as the way to go. Twenty-four percent felt that a position between those two would be appropriate. Again only 2 percent felt that "none" was the amount of control needed; no program registered a favorable vote for a position in between "none" and "advisory."

Control the director should have over determination of project approach. Twenty percent felt that the director should have autonomy over the project approach selected; another 20 percent felt he should have advisory control only; and 30 percent wanted a level of control midway between these two. Only 2 percent favored no control, and no program wanted a level of control in between "none" and "advisory." The mean was 3.97.

Control the director should have over media selection. Fourteen percent felt that autonomy should be exercised by the director in this function; 28 percent felt an "advisory" level of control would be appropriate, and 18 percent were in between the two as to what they felt were desirable controls. Four percent wanted no control over media production, and 2 percent felt it should be between "none" and "advisory." The mean was 3.57.

Control the director should have over media production. Twenty-eight percent wanted autonomy for the director in this function. Eighteen percent felt advisory control was sufficient and 16 percent felt that a level in between these two was appropriate. Four percent wanted no control, and 2 percent felt that control between "none" and "advisory," would be sufficient. The mean was 4.03.

Control the director should have over validation. Twenty-four percent of the respondents wanted the director to be autonomous in this function; 20 percent wanted him to be advisory and another 20 percent felt that a position in between these two would be desirable. Two percent wanted no control over validation by the director, and 4 percent wanted control that was between "none" and "advisory." The mean was 3.60.

Control the director should have over utilization. Ten percent of the respondents said the director should have autonomy with regard to utilization. Twenty-eight percent wanted him to be advisory in nature, and 22 percent voted for a position midway between these two. Two percent felt no utilization control by the director was necessary and another 20 percent felt that there should be some control, but of a level between "none" and "advisory."

PROCEDURES

Identification of Development Needs

The determination of what problems should be solved by the instructional development process comes from a variety of sources.

In 47 percent of the programs inventoried, the faculty was the body that decided what problems should be addressed. In 24 percent of the programs the program director exercised this control, while the dean or department head performed this function in 14 percent of the cases.

Twelve percent of the programs received this direction from a level higher than the dean, and in 8 percent of the programs the students themselves determined where the instructional development emphasis was needed.

Sixteen percent of the respondents indicated that this question did not fit their particular situations.

Determination of Project Priorities

Many of the same sources identified in the above section also served to determine the priority of activities within the program, once they were established as being legitimate instructional development undertakings. These other sources were: from a level above the director, 8 percent; from the director only, 16 percent; director assisted by an advisory committee, 16 percent; from the faculty, 10 percent; academic requirements of the institution, 8 percent; the number of students enrolled in a given class or activity, 8 percent; availability of adequate funding, 12 percent; and other sources (not specified), 8 percent. Fourteen percent of the respondents indicated that this question did not meet their specific situation.

Existence of Selected Guidelines

The functions of design, production, validation and utilization were each examined for the existence of procedural steps, average cost figures, quality control figures and cost effectiveness checks. The findings are reported individually in this section and also summarized in Table 5.

Procedural steps. Seventy-two percent of the programs surveyed had procedural steps for the design process; 68 percent had them for production; 60 percent for validation and 64 percent for utilization.

Average cost figures. The average cost necessary to design instructional elements is known by 20 percent of the programs so engaged. Thirty percent of them have cost figures for production; 16 percent for utilization; and 8 percent for validation.

In view of the almost universal allegiance to validation as an essential part of the development process, this latter figure is surprisingly small.

Quality control procedures. Of the programs surveyed, 38 percent have quality control procedures for design; 48 percent have them for production; validation, 36 percent; and utilization, 34 percent.

Cost effectiveness checks. Concern for cost effectiveness appeared in very few of the programs inventoried. Such checks existed for design in 12 percent of the programs; production in 14 percent; validation, 12 percent; and utilization, 16 percent.

Location of Various Instructional Development Functions

The questions in this section were directed toward where various aspects of development take place. Due to the fact that the categories are not mutually exclusive, computer analysis was not attempted. For this same reason the totals of the categories may exceed 100 percent. Table 6 summarizes the results of this section.

Project selection. Project selection was a process not performed by 4 percent of the programs. For 88 percent of the programs it was done within the institution by program personnel; for 12 percent it was done within the institution but by personnel outside of the program.

Table 5

Percent of Programs with Selected Process Guidelines

	Design	Production	Validation	Utilization
Procedural steps for	72	68	60	64
Average cost figures for	20	30	8	16
Quality Control figures for	38	48	36	34
Cost Effectiveness checks for	12	14	12	16

Table 6

Location of Various Development Functions by Percent

	Not Done	(a) Progress. Persons in Institute	Both a&b	(b) Outside Prog. in Institute	Both b&c	(c) Agency Outside Institute
Project Selection	4	88	18	30	0	2
Approach Determination	0	98	10	18	0	0
Media Production	2	80	10	30	10	20
Validation	16	78	16	20	4	4
Publicity	10	64	16	32	6	10
Marketing	26	26	0	16	4	4

Eighteen percent of the programs reported that both of these possibilities applied to their situation. In 2 percent of the cases project selection was done by an agency outside of the institution.

Determination of instructional approach. The instructional approach used was determined by program personnel in 98 percent of the programs. It was determined outside of the program, but within the institution, in 8 percent of the cases. In 10 percent of the programs the instructional approach was determined both inside and outside of the program.

Media production. In 2 percent of the programs media production was not done at all; it was done within the program in 80 percent of the cases; and outside of the program--but within the institution--in 20 percent of the cases. Ten percent of the programs reported going both ways. Another 10 percent of the programs relied on sources outside of their institution for media production and yet another 10 percent utilized both outside sources and sources outside of their program but within the institution.

Validation. Sixteen percent of the programs did not validate their instructionally developed products. Seventy-eight percent of the programs used their own people to validate, and 4 percent validated using personnel within the institution, but outside of the program. Sixteen percent used both. Four percent of the programs had their products evaluated by agencies outside of the institution as well as by their own institution, but not with program personnel.

Dissemination. Dissemination was divided into the two categories of publicity--which was defined as the procedures at the institution designed to inform the entire faculty about the instructional development program, what others are doing, etc.--and marketing. Only publicity is reported here, marketing being covered in the next section.

Publicity activities were not attempted by 16 percent of the programs; were done within the institution by program personnel, in 64 percent of the programs. This was done within the institution but outside of the program by 16 percent of the institutions. An additional 15 percent of the programs functioned in both of these latter categories. Four percent utilized publicity methods outside of their institution and 6 percent used both sources outside of their institution and within the institution, but external to the program.

Marketing. Marketing was not attempted in 26 percent of the programs; another 26 percent handled it by program personnel. Sixteen percent of the institutions marketed the products of their instructional development efforts, but did not utilize program personnel in so doing. The 4 percent who reported that their marketing was done by agencies outside of the institution indicated that they utilized their own institutional capabilities as well.

Procedural Schematics

No response to the request that a flow chart, procedural schematic or model be submitted showing the steps of the respondents' development process, was received from 48 percent of the programs. Four percent of the programs indicated that such material did not exist and another 4 percent said that the question did not apply to their situation.

The models or flow charts provided by the remaining 44 percent of the programs are shown as Figures 38 to 58 inclusive, immediately following.

PERSONNEL

Duties and Benefits

In an attempt to ascertain both functions and benefits accruing to personnel assigned to instructional development programs, four categories of benefits were inventoried. Additionally, four areas in which a major disposition of time was made by program personnel were identified and inventoried. Undoubtedly there are areas not covered in both categories.

For consistency all answers were reduced to "yes-no" responses and the percentage in the "yes" category is the figure reported in this section.

Personnel thus examined were not identified by title or position, but with regard to level in relationship to

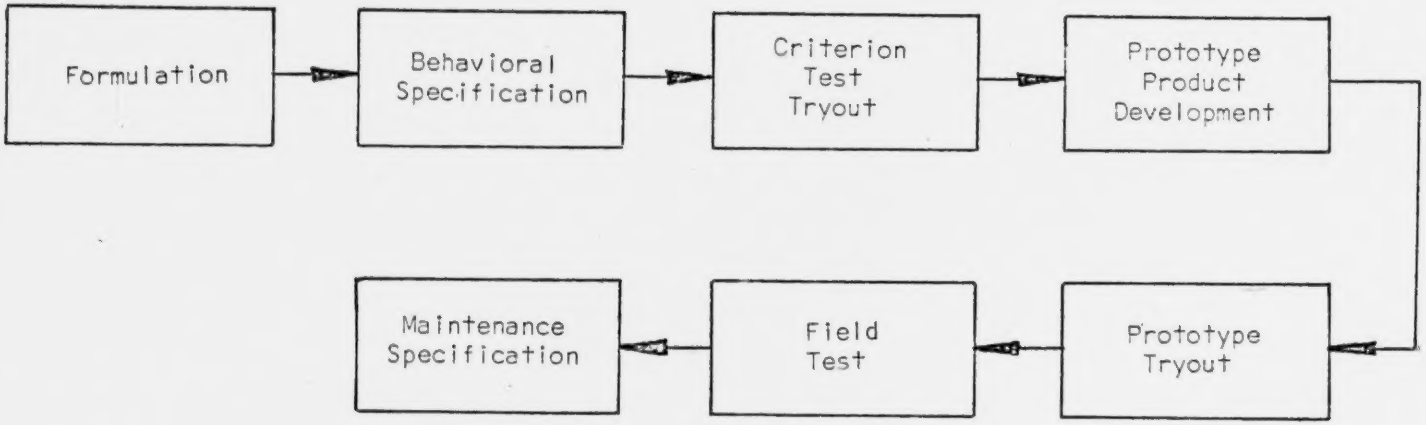

Formulation
Behavioral Specification
Criterion Test Tryout
Prototype Product Development
Prototype Tryout
Field Test
Maintenance Specification

Figure 38. Arizona State University, Tempe, Arizona

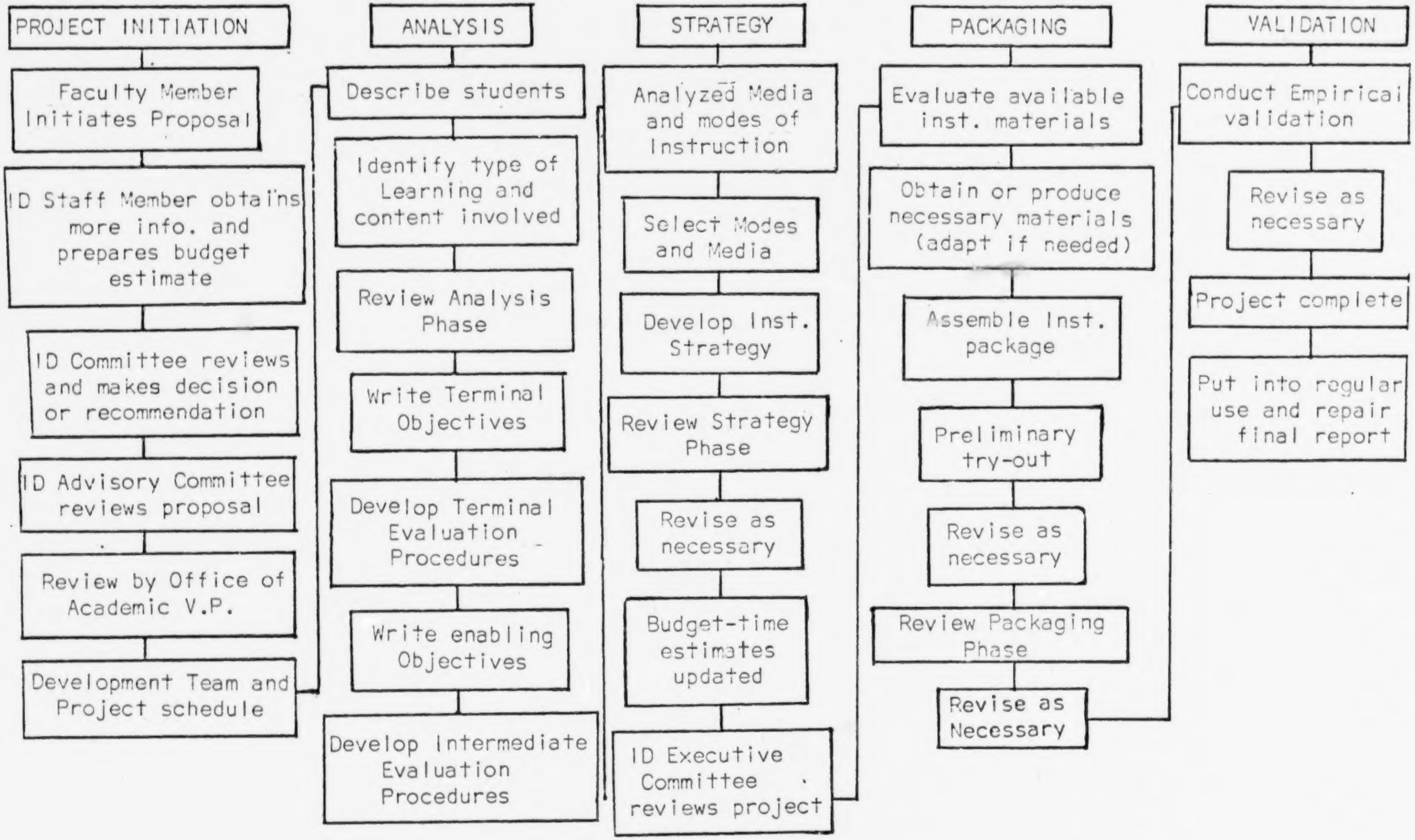

PROJECT INITIATION
Faculty Member Initiates Proposal
ID Staff Member obtains more info. and prepares budget estimate
ID Committee reviews and makes decision or recommendation
ID Advisory Committee reviews proposal
Review by Office of Academic V.P.
Development Team and Project schedule
ANALYSIS
Describe students
Identify type of Learning and content involved
Review Analysis Phase
Write Terminal Objectives
Develop Terminal Evaluation Procedures
Write enabling Objectives
Develop Intermediate Evaluation Procedures
STRATEGY
Analyzed Media and modes of Instruction
Select Modes and Media
Develop Inst. Strategy
Review Strategy Phase
Revise as necessary
Budget-time estimates updated
ID Executive Committee reviews project
PACKAGING
Evaluate available inst. materials
Obtain or produce necessary materials (adapt if needed)
Assemble Inst. package
Preliminary try-out
Revise as necessary
Review Packaging Phase
Revise as Necessary
VALIDATION
Conduct Empirical validation
Revise as necessary
Project complete
Put into regular use and repair final report

Figure 39. Brigham Young University, Provo, Utah

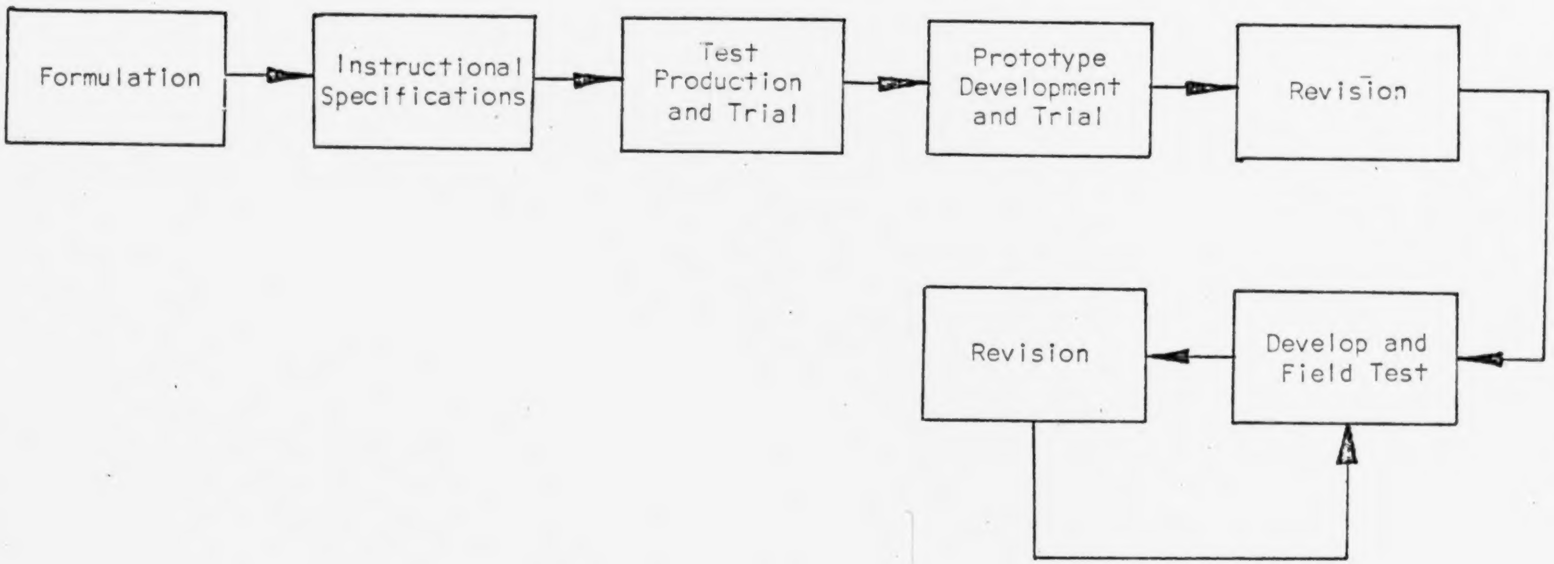

Formulation
Instructional Specifications
Test Production and Trial
Prototype Development and Trial
Revision
Develop and Field Test
Revision

Figure 40. University of California, Los Angeles, California

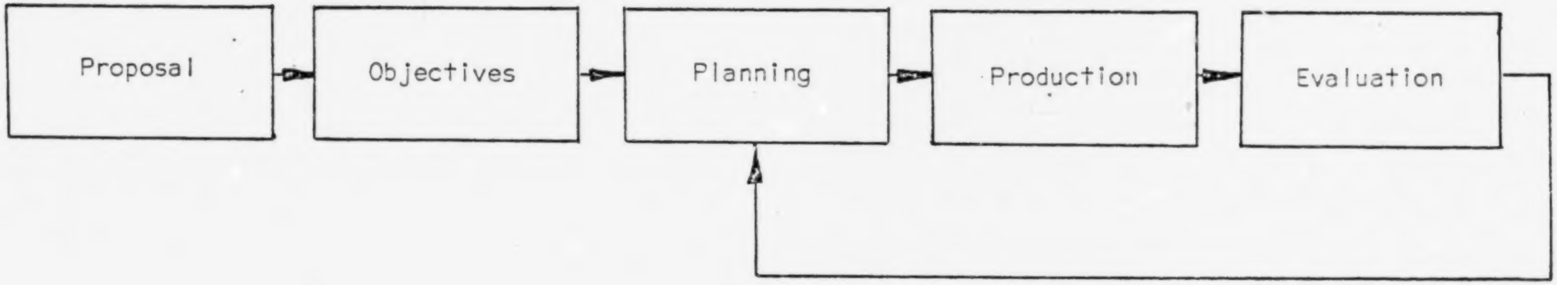

Proposal
Objectives
Planning
Production
Evaluation

Figure 41. Forest Park Community College, Saint Louis, Missouri

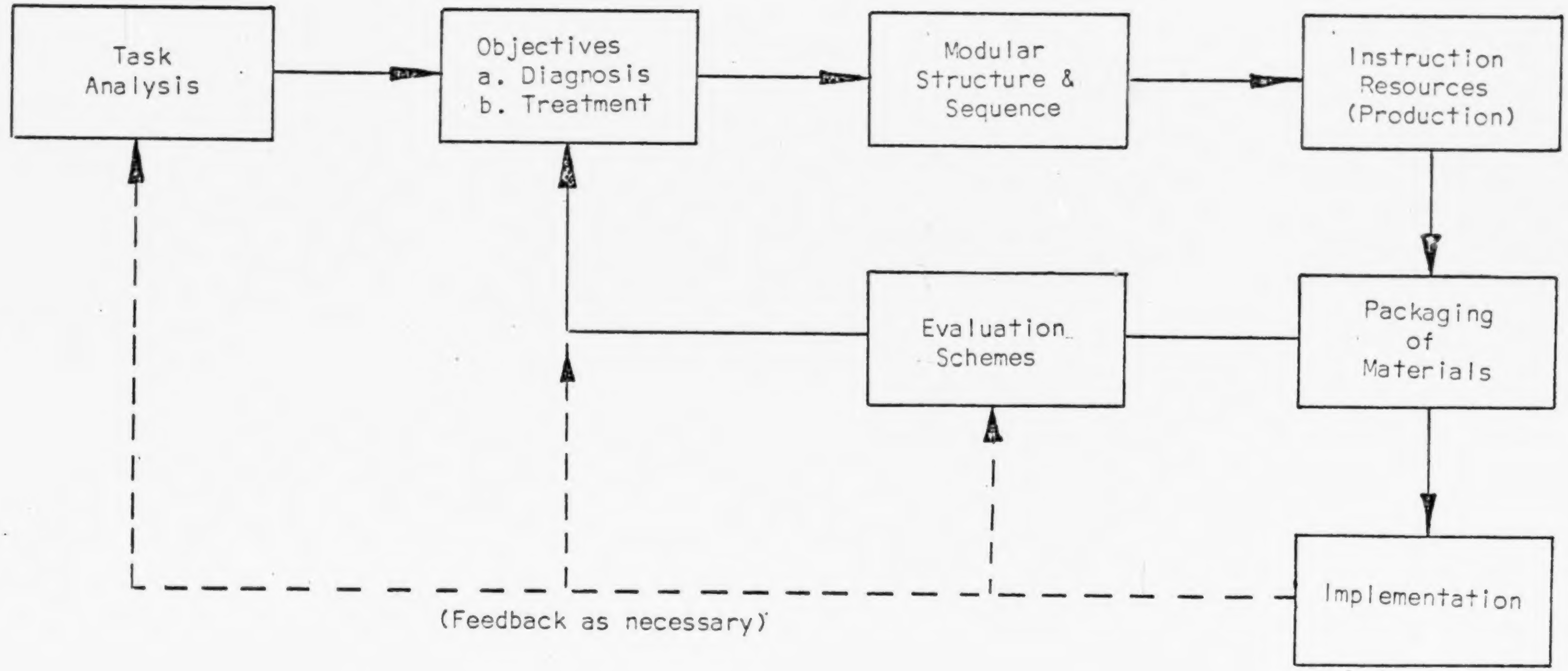

Task
Analysis
Objectives
a. Diagnosis
b. Treatment
Modular
Structure &
Sequence
Instruction
Resources
(Production)
Packaging
of
Materials
Evaluation
Schemes
Implementation
(Feedback as necessary)

Figure 42. College of Dentistry, University of Florida, Gainesville

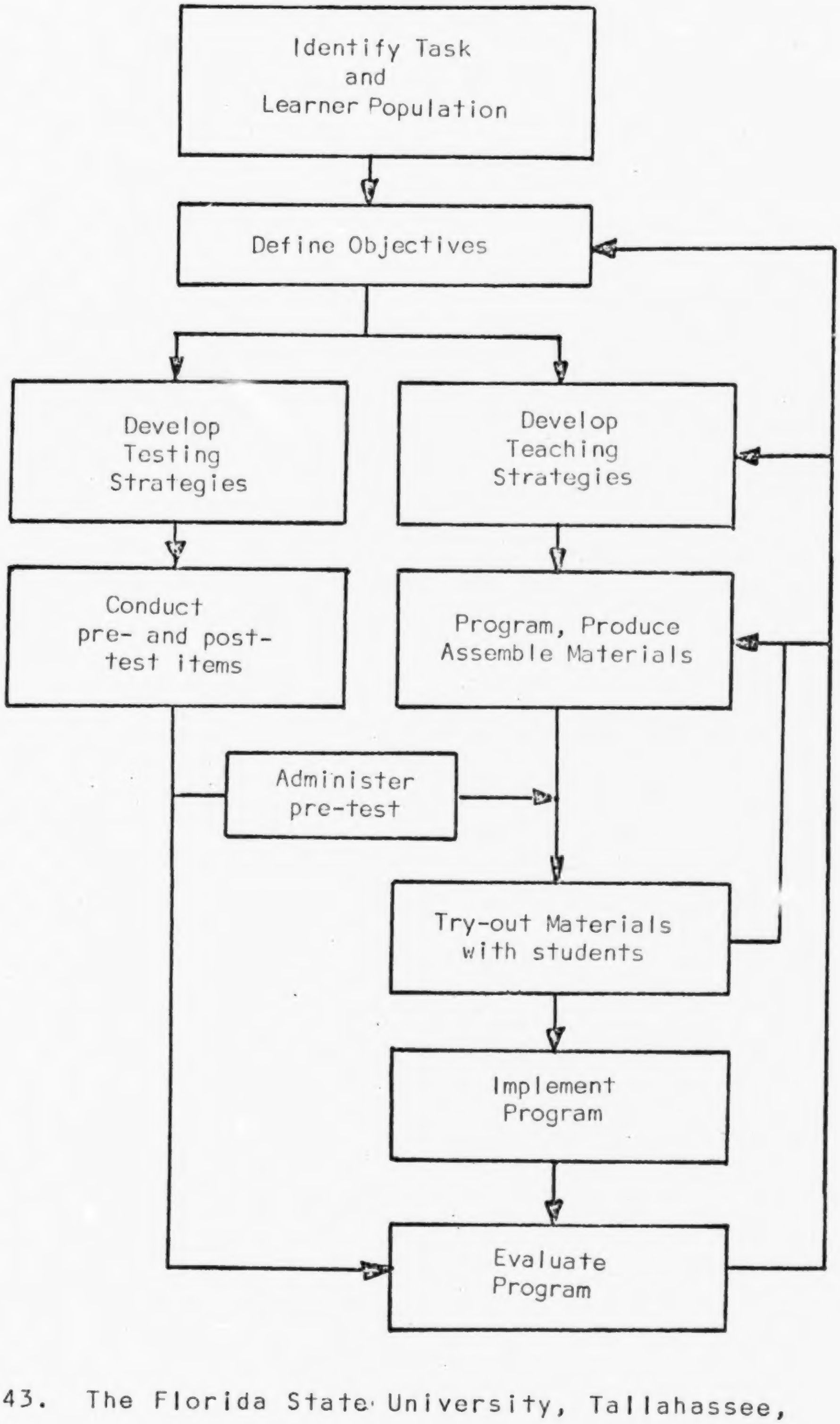

Identify Task and Learner Population
Define Objectives
Develop Testing Strategies
Develop Teaching Strategies
Conduct pre- and post-test items
Program, Produce Assemble Materials
Administer pre-test
Try-out Materials with students
Implement Program
Evaluate Program

Figure 43. The Florida State University, Tallahassee, Florida

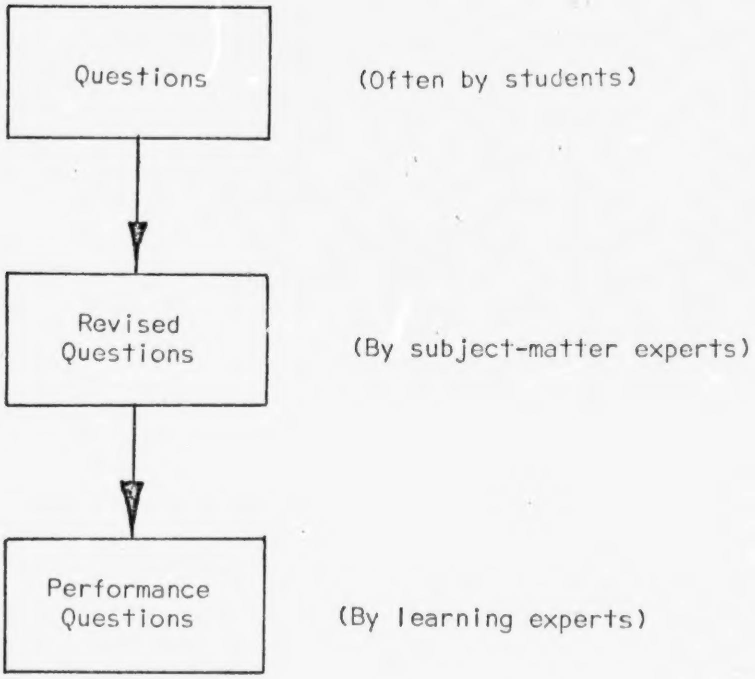

Questions
(Often by students)
Revised Questions
(By subject-matter experts)
Performance Questions
(By learning experts)

Figure 44. Learning Materials Division, Medical College of Georgia, Augusta

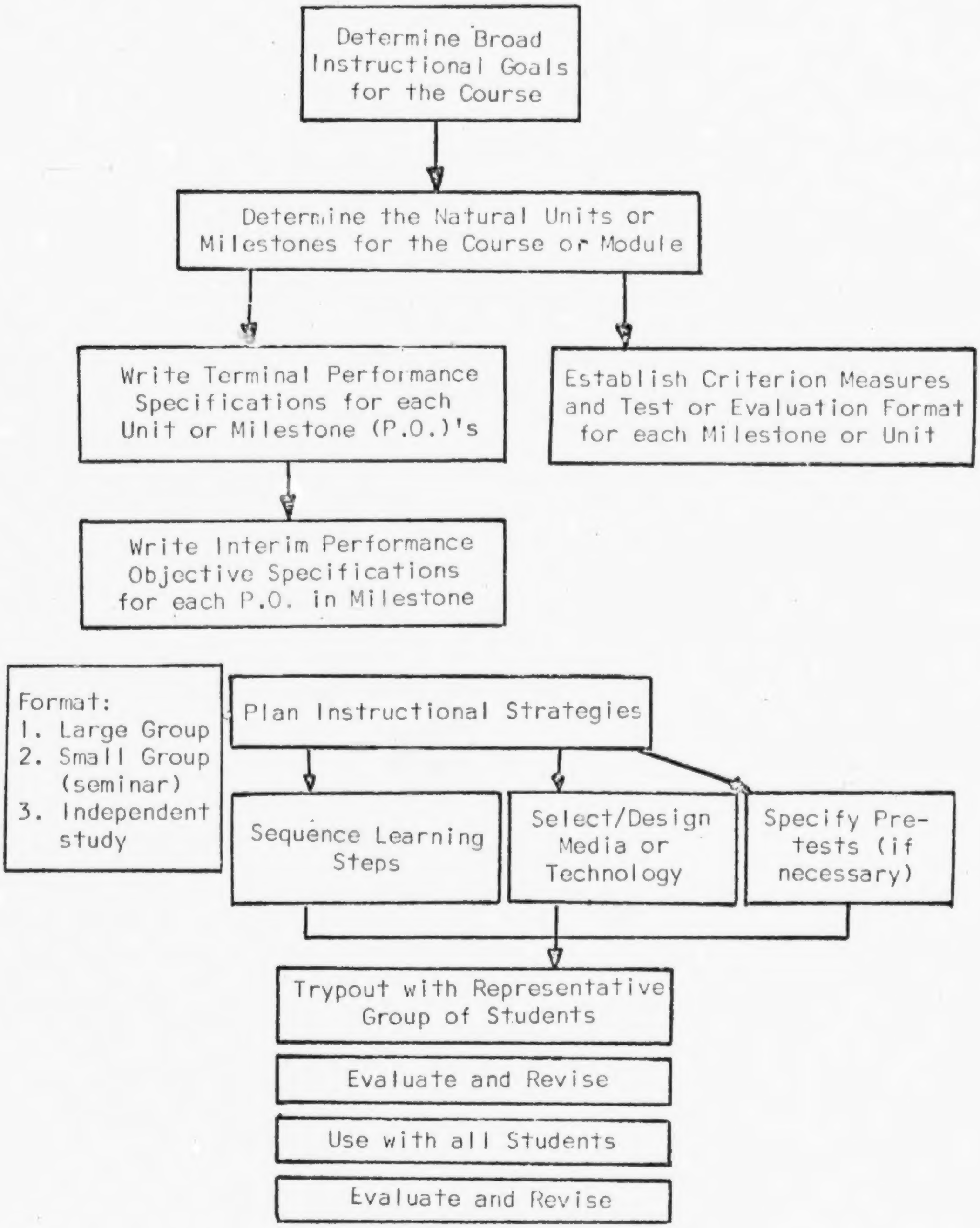

Determine Broad Instructional Goals for the Course
Determine the Natural Units or Milestones for the Course or Module
Write Terminal Performance Specifications for each Unit or Milestone (P.O.)'s
Establish Criterion Measures and Test or Evaluation Format for each Milestone or Unit
Write Interim Performance Objective Specifications for each P.O. in Milestone
Format:
1. Large Group
2. Small Group (seminar)
3. Independent study
Plan Instructional Strategies
Sequence Learning Steps
Select/Design Media or Technology
Specify Pre-tests (if necessary)
Trypout with Representative Group of Students
Evaluate and Revise
Use with all Students
Evaluate and Revise

Figure 45. Hostos Community College, Laurel, New York

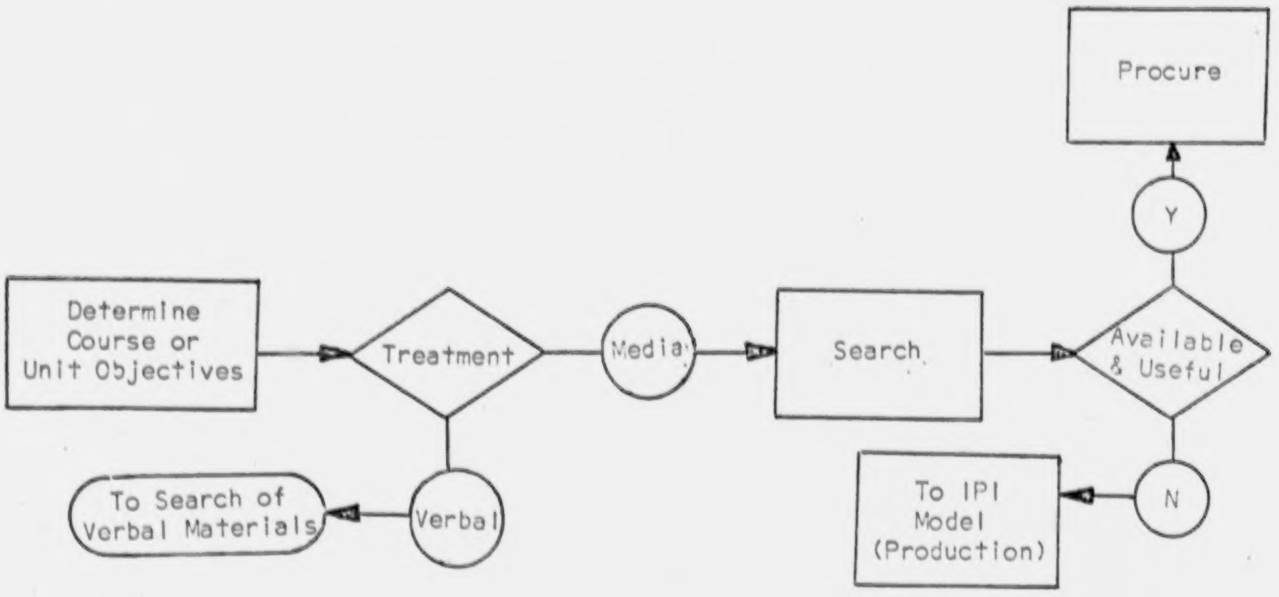

Determine
Course or
Unit Objectives
Treatment
Media
Search
Available
& Useful
Y
Procure
N
To IPI
Model
(Production)
Verbal
To Search of
Verbal Materials

Figure 46. Illinois State University, Normal, Illinois

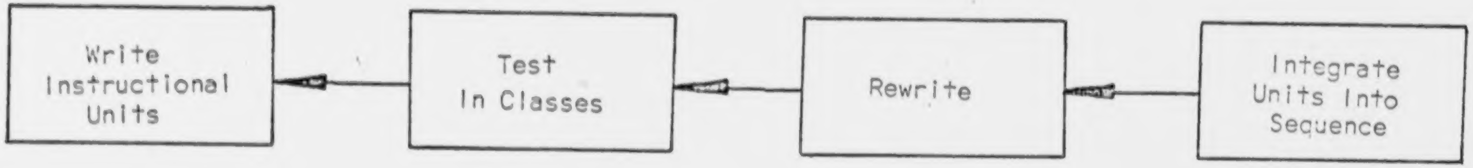

Write Instructional Units
Test In Classes
Rewrite
Integrate Units Into Sequence

Figure 47. University of Maryland, College Park, Maryland

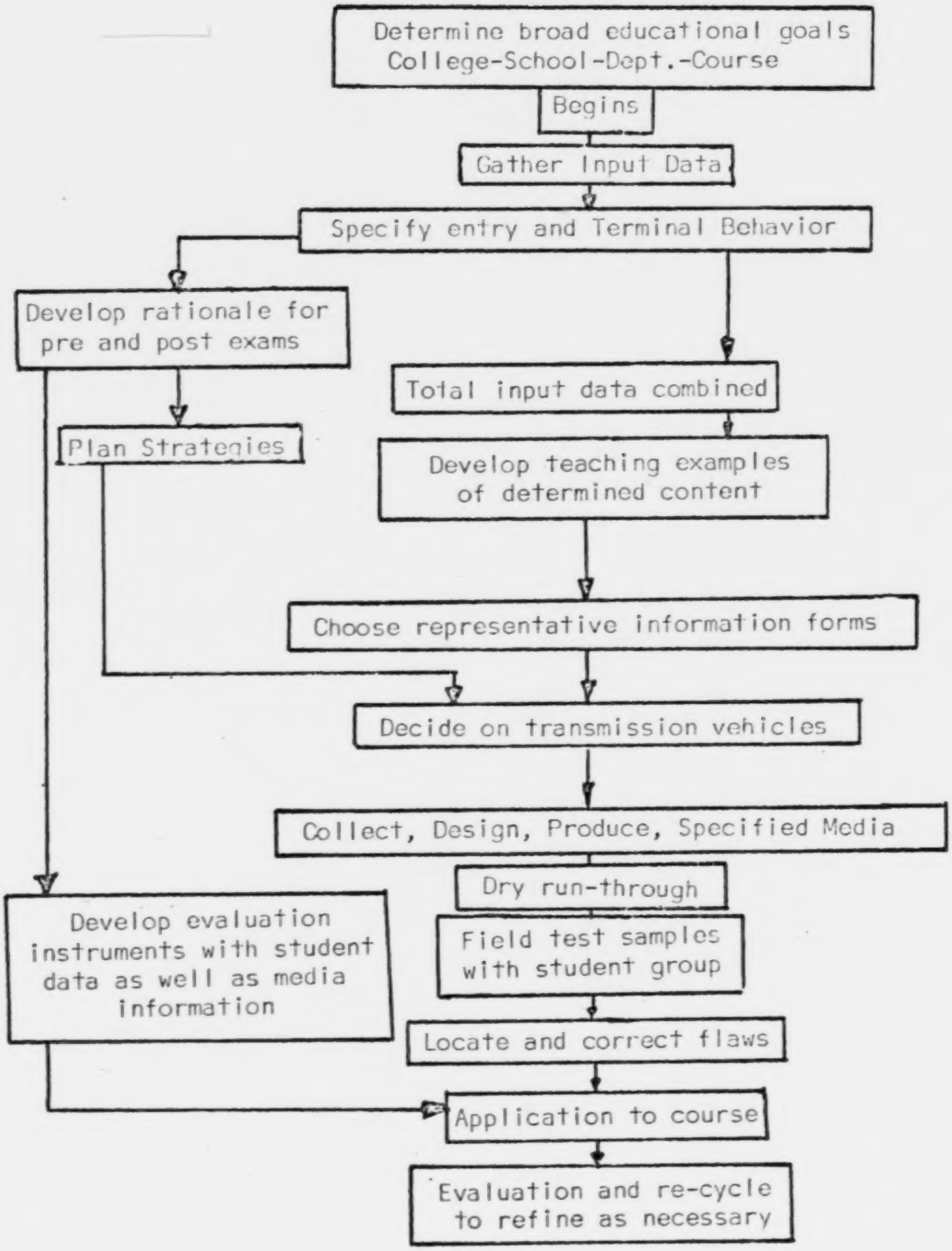

Determine broad educational goals
College-School-Dept.-Course
Begins
Gather Input Data
Specify entry and Terminal Behavior
Develop rationale for pre and post exams
Plan Strategies
Total input data combined
Develop teaching examples of determined content
Choose representative information forms
Decide on transmission vehicles
Collect, Design, Produce, Specified Media
Dry run-through
Field test samples with student group
Develop evaluation instruments with student data as well as media information
Locate and correct flaws
Application to course
Evaluation and re-cycle to refine as necessary

Figure 48. Michigan State University, East Lansing, Michigan

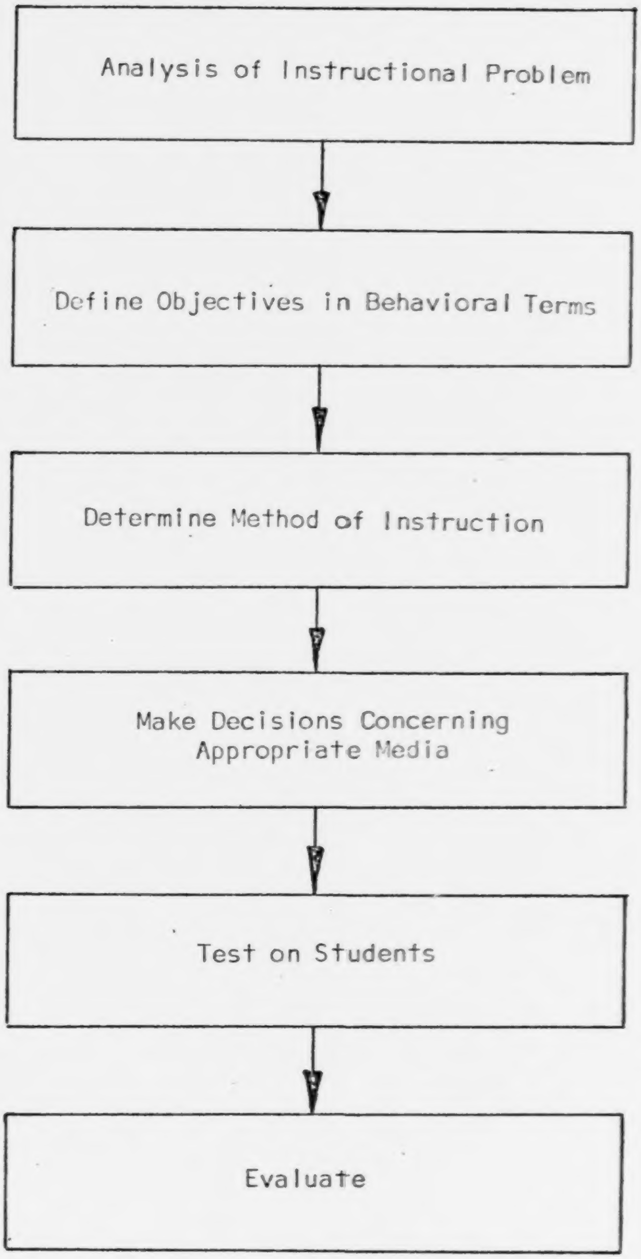

Analysis of Instructional Problem
Define Objectives in Behavioral Terms
Determine Method of Instruction
Make Decisions Concerning Appropriate Media
Test on Students
Evaluate

Figure 49. Department of Anatomy, Michigan State University, East Lansing

1. Specify:
    a. nature of problem or opportunity
    b. student population
    c. content
    d. educational goals
    e. place in curriculum or course
    f. prerequisite skills
2. Establish Performace Objectives
3. Design Evaluation Precedures
4. Design Presentation Form
5. Select Media
6. Develop Instructional Components
7. Test and Revise Production Components
8. Produce Instructional Components
9. Test and Revise Instructional Components
10. Implement Instructional Systems
11. Test and Revise Instructional Systems

Figure 50. Division of Instructional Systems Development Northeastern University, Boston, Massachusetts

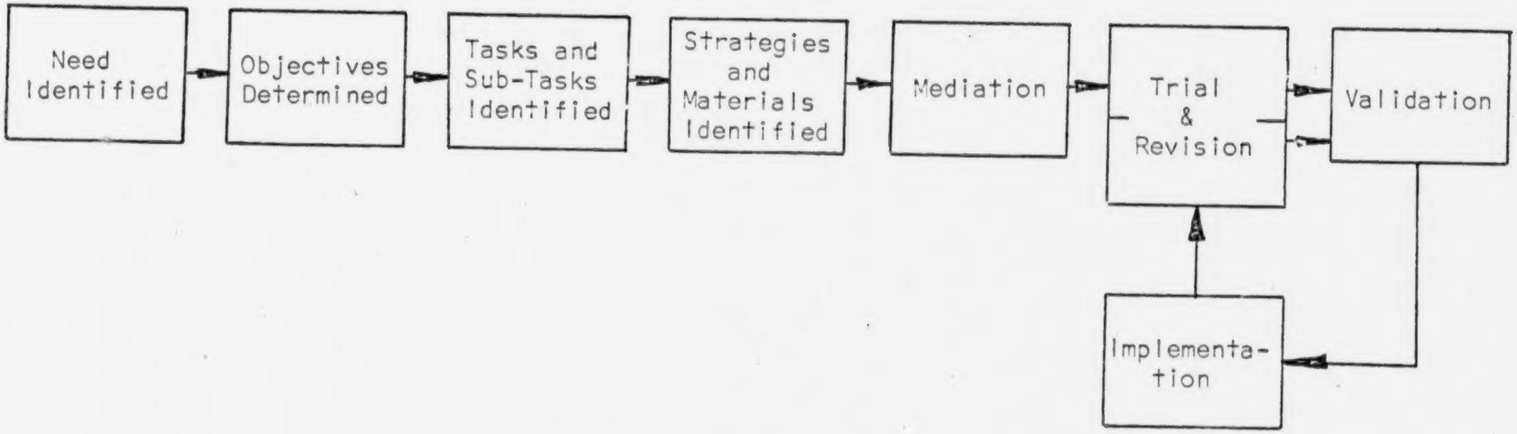

Need Identified
Objectives Determined
Tasks and Sub-Tasks Identified
Strategies and Materials Identified
Mediation
Trial & Revision
Validation
Implementation

Figure 51. Northern Virginia Community College, Annandale, Virginia

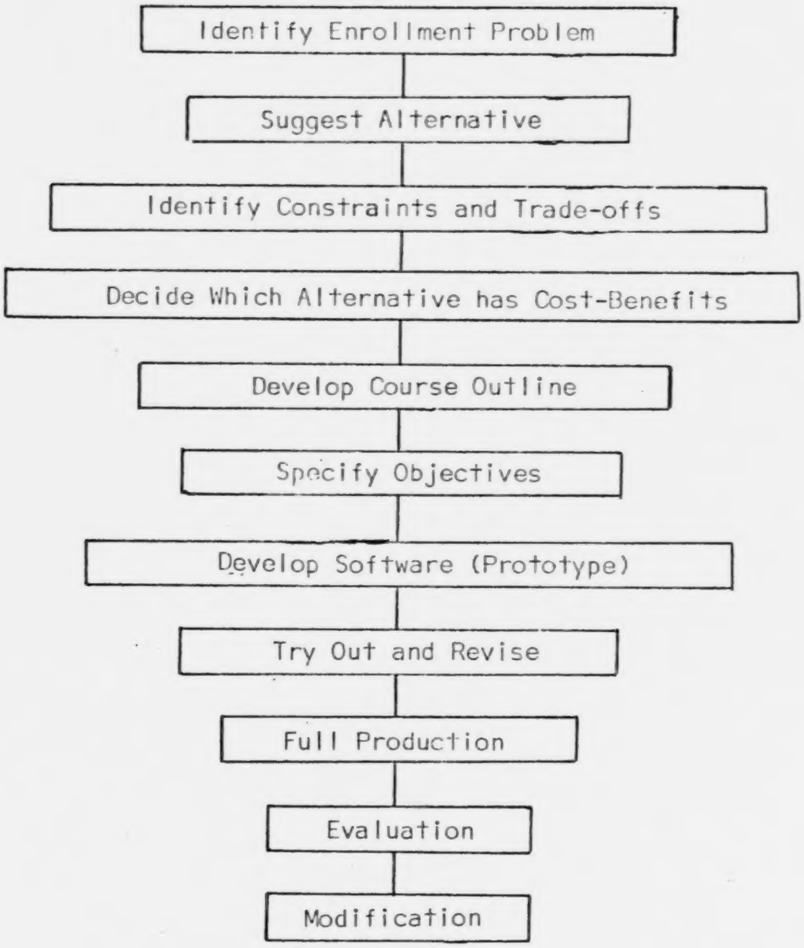

Identify Enrollment Problem
Suggest Alternative
Identify Constraints and Trade-offs
Decide Which Alternative has Cost-Benefits
Develop Course Outline
Specify Objectives
Develop Software (Prototype)
Try Out and Revise
Full Production
Evaluation
Modification

Figure 52. State University College, New Paltz, New York

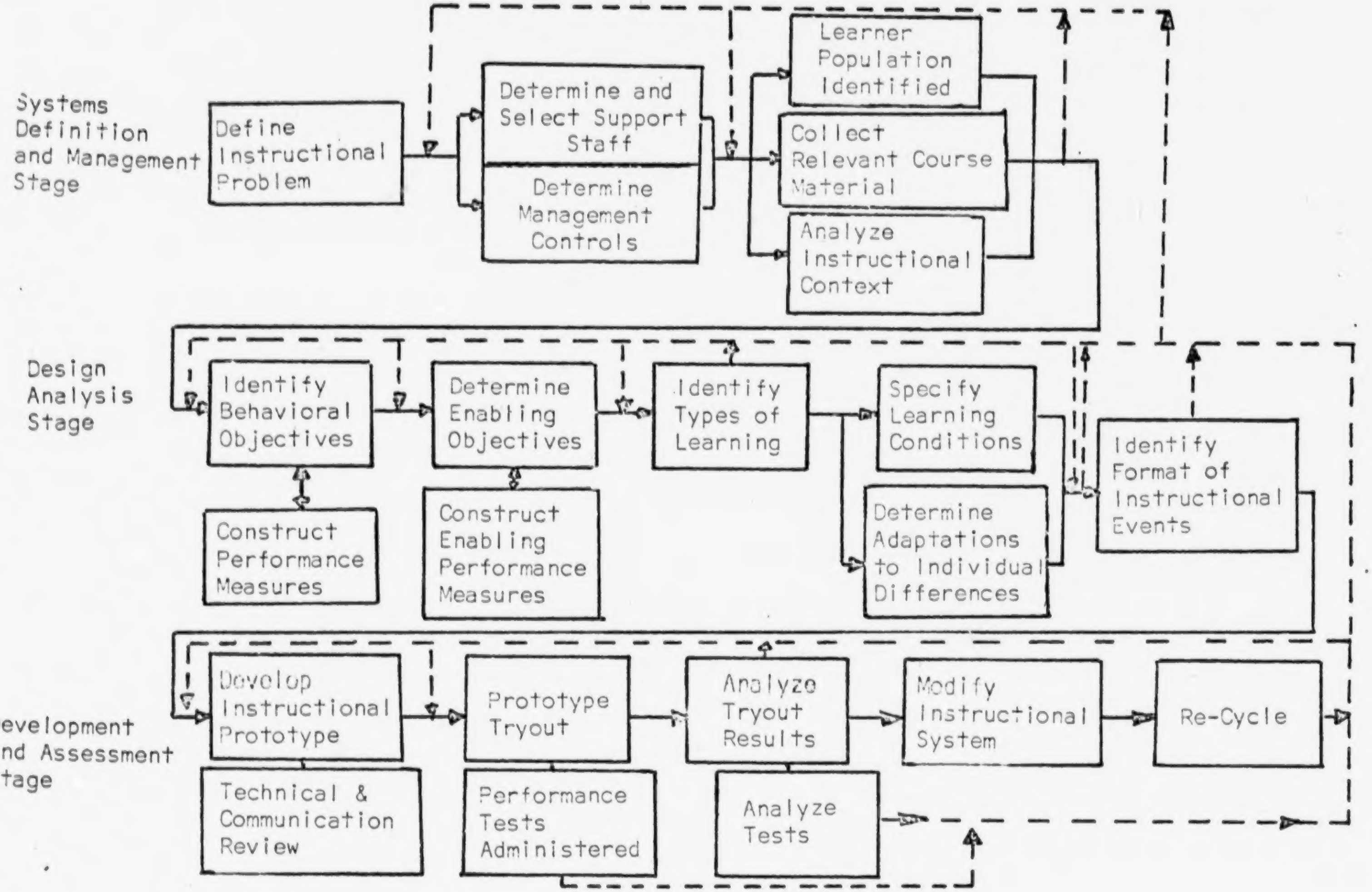

Systems Definition and Management Stage
Define Instructional Problem
Determine and Select Support Staff
Determine Management Controls
Learner Population Identified
Collect Relevant Course Material
Analyze Instructional Context
Design Analysis Stage
Identify Behavioral Objectives
Construct Performance Measures
Determine Enabling Objectives
Construct Enabling Performance Measures
Identify Types of Learning
Specify Learning Conditions
Determine Adaptations to Individual Differences
Identify Format of Instructional Events
Development and Assessment Stage
Develop Instructional Prototype
Technical & Communication Review
Prototype Tryout
Performance Tests Administered
Analyze Tryout Results
Analyze Tests
Modify Instructional System
Re-Cycle

Figure 53. Oregon System of Higher Education, Monmouth, Oregon

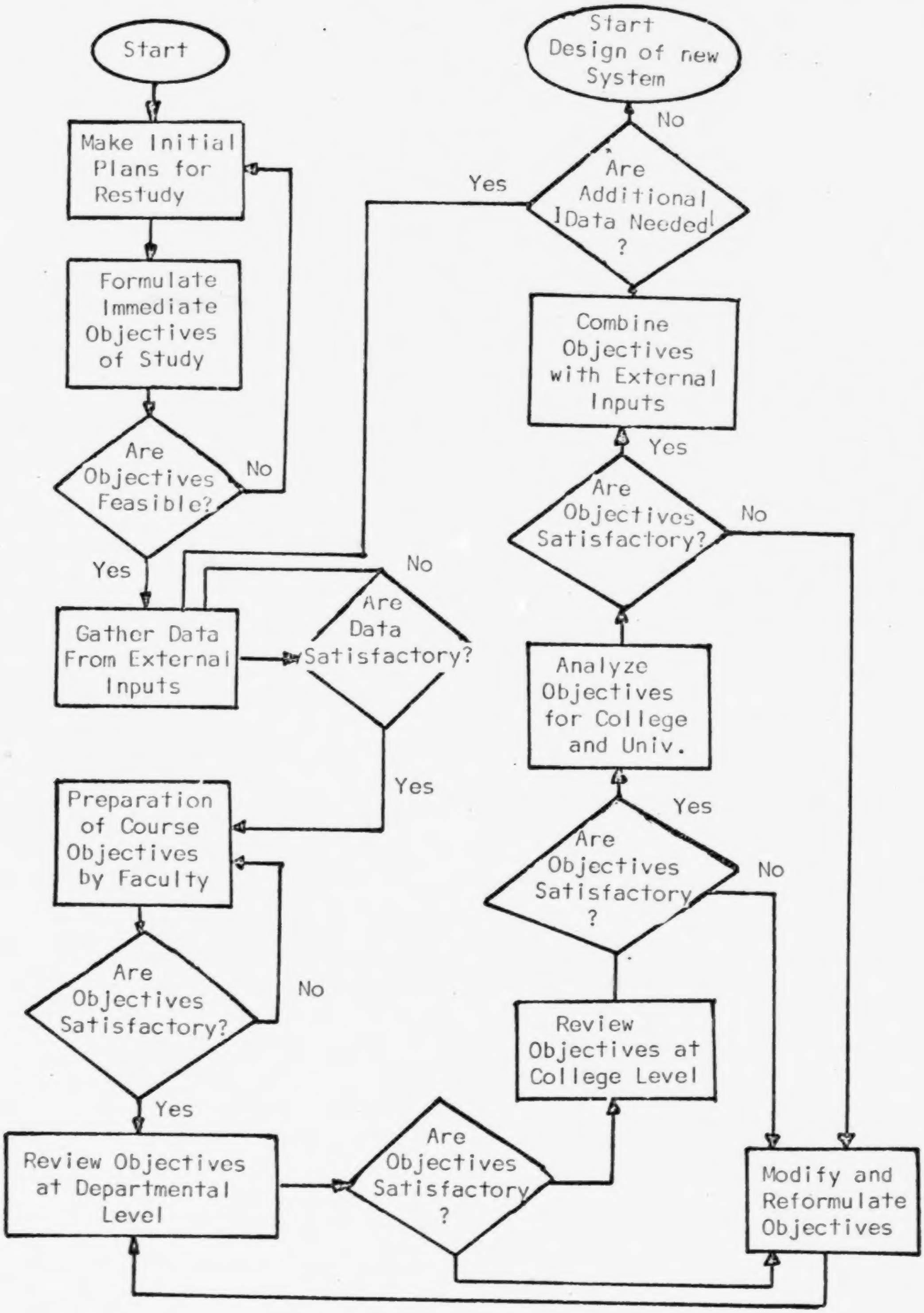

Start
Make Initial Plans for Restudy
Formulate Immediate Objectives of Study
Are Objectives Feasible?
No
Yes
Gather Data From External Inputs
Are Data Satisfactory?
No
Yes
Preparation of Course Objectives by Faculty
Are Objectives Satisfactory?
No
Yes
Review Objectives at Departmental Level
Are Objectives Satisfactory ?
Review Objectives at College Level
Are Objectives Satisfactory ?
Yes
No
Analyze Objectives for College and Univ.
Are Objectives Satisfactory?
Yes
No
Combine Objectives with External Inputs
Are Additional Data Needed ?
Yes
No
Start Design of new System
Modify and Reformulate Objectives

Figure 54. Tennessee Technical University, Cokeville

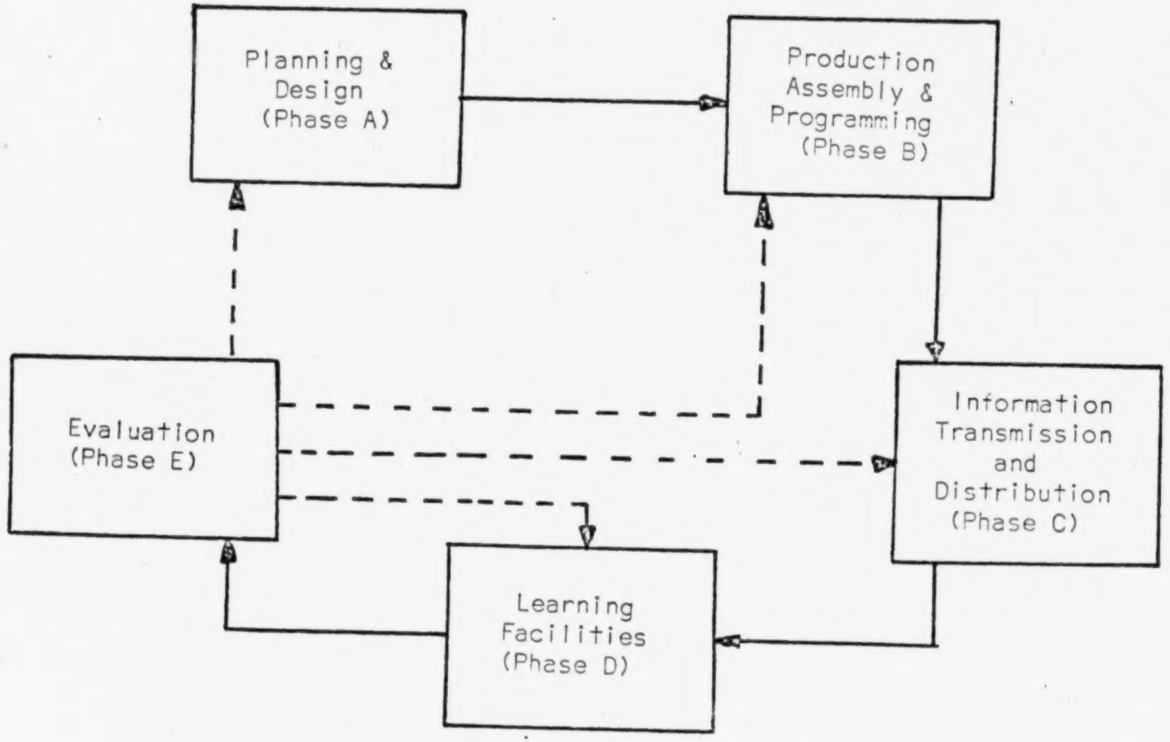

Planning &
Design
(Phase A)
Production
Assembly &
Programming
(Phase B)
Information
Transmission
and
Distribution
(Phase C)
Learning
Facilities
(Phase D)
Evaluation
(Phase E)

Figure 55. Utah State University, Logan, Utah

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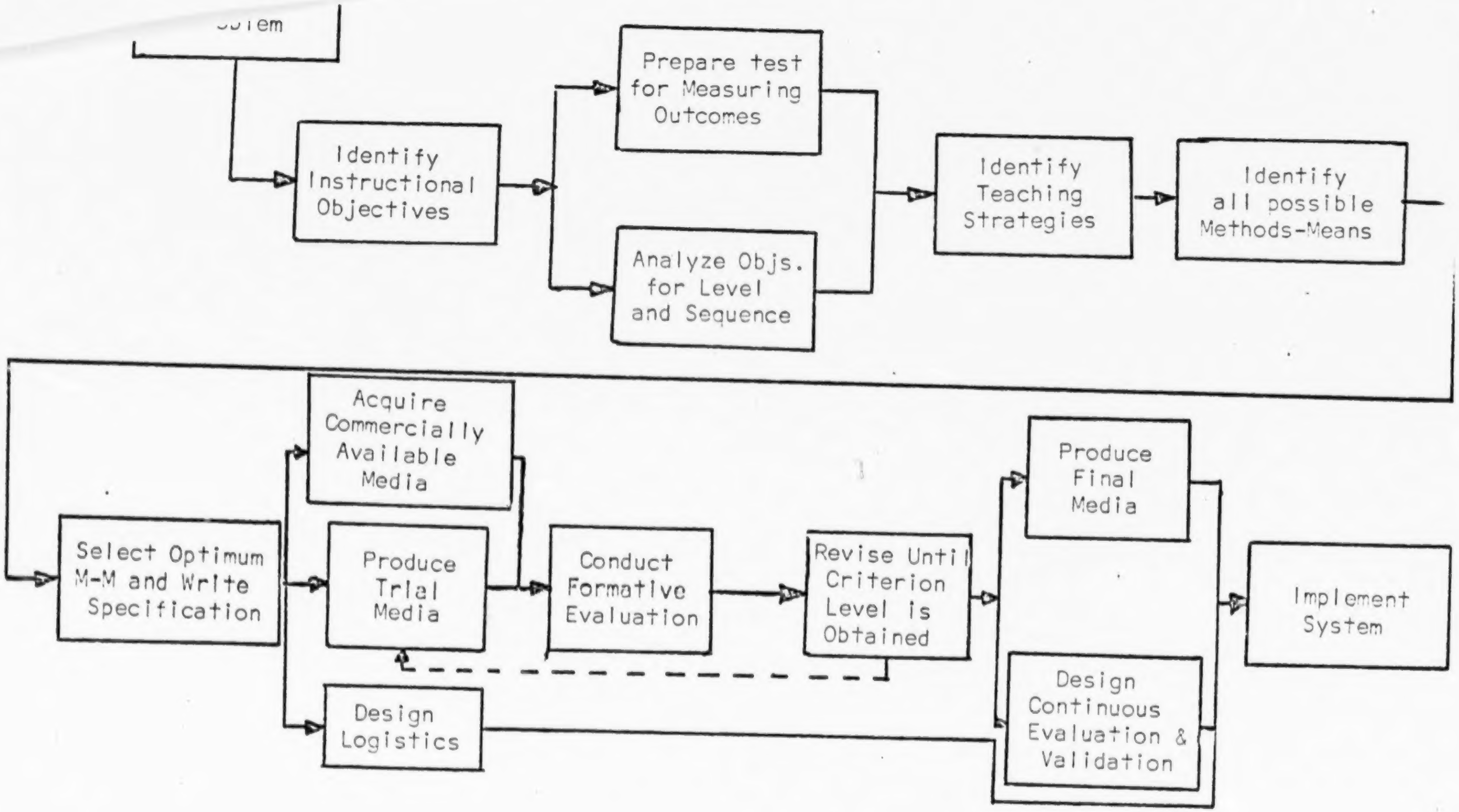

ɔɔıem
Identify Instructional Objectives
Prepare test for Measuring Outcomes
Analyze Objs. for Level and Sequence
Identify Teaching Strategies
Identify all possible Methods-Means
Select Optimum M-M and Write Specification
Acquire Commercially Available Media
Produce Trial Media
Design Logistics
Conduct Formative Evaluation
Revise Until Criterion Level is Obtained
Produce Final Media
Design Continuous Evaluation & Validation
Implement System

Figure 56. Division of Learning Resources, Weber State College, Ogden, Utah

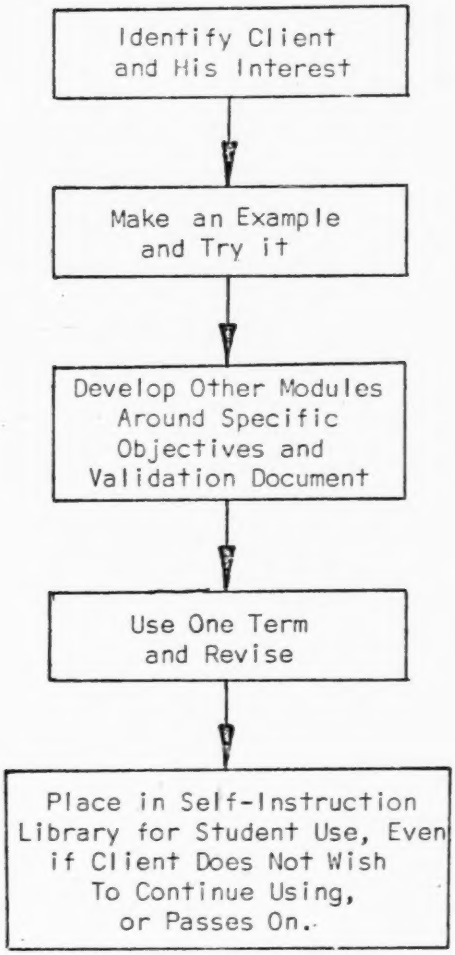
Identify Client and His Interest
Make an Example and Try it
Develop Other Modules Around Specific Objectives and Validation Document
Use One Term and Revise
Place in Self-Instruction Library for Student Use, Even if Client Does Not Wish To Continue Using, or Passes On.

Figure 57. Western Illinois University, Macomb, Illinois

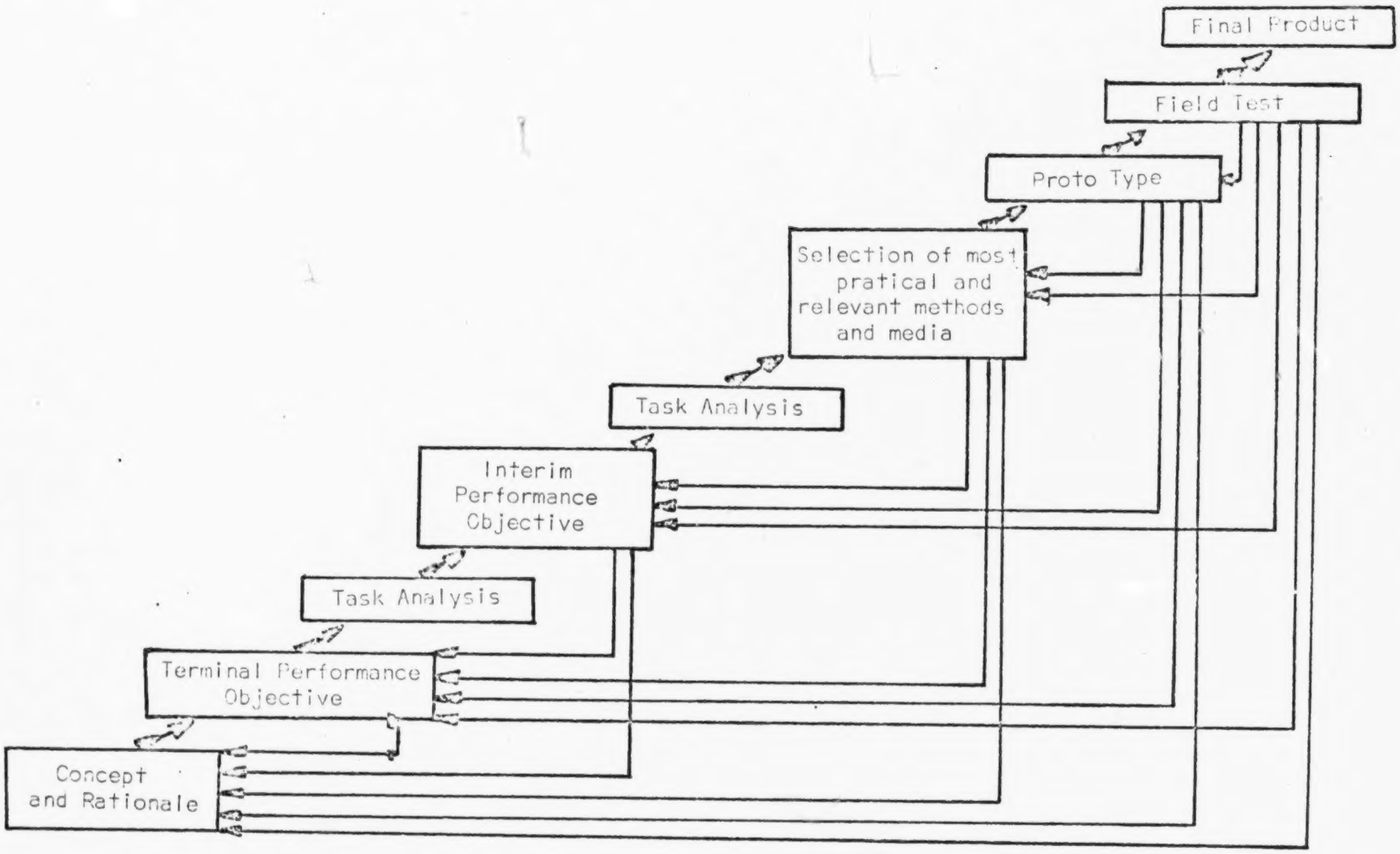
Final Product
Field Test
Proto Type
Selection of most pratical and relevant methods and media
Task Analysis
Interim Performance Objective
Task Analysis
Terminal Performance Objective
Concept and Rationale

Figure 58. University of Wisconsin, Milwaukee, Wisconsin

the director.

Academic rank. As might be expected, the directors were the highest percentage of persons holding academic rank (72 percent). Forty-eight percent of the employees at the next level down from the director held rank, while 36 percent of those two levels down enjoyed this distinction. Of the level four employees, only 20 percent had academic rank and in 4 percent of the programs interns or other trainees held rank.

Contracts. Seventy percent of the directors of the instructional development programs surveyed were under contract. At levels two and three, 62 and 46 percent, respectively, of the program personnel had contracts. Twenty percent of the level four people had contracts and 8 percent of the interns or other trainees had such a relationship to the program's institution.

Tenure. Thirty-eight percent of the directors of the programs surveyed either had or could qualify for tenure. This same figure applied to persons at the next level down from the director. Levels three and four registered 24 and 15 percent, respectively, as having tenure.

Sabbatical leave. Sabbatical leave was possible with 48 percent of the directors, 34 percent of those at level two and 22 percent of those at level three. Eighteen percent of the people at level four could earn sabbatical leave. This and the previous question did not apply to any persons at the intern or trainee level.

Consulting. Permissable engagement in outside consulting activities was indicated by 58 percent of the directors; 36 percent of the level two personnel; and 30 percent of the level three personnel. Fourteen percent of the level four people and 4 percent of the interns or other trainees engaged in this same activity.

Instructional development. With instructional developers also being teachers, administrators, and consultant, do they actually have time left for development? Seventy percent of the directors still do, and so do 68 percent of the level two personnel. People assigned to levels three and four have 42 percent and 24 percent respectively of their numbers engaged in development and 16 percent of the interns or other trainees are so employed.

Research. Over half (52 percent) of the directors of the instructional development programs surveyed engage in research activities; as did 38 percent of those at level two and 28 percent of those at level three. Eighteen percent of those at level four and 4 percent of the interns or other trainees devote time or are assigned to do research.

Teaching. Slightly under half (46 percent) of the directors also teach. Thirty-six percent of the level two people and 24 percent and 14 percent of the level three and four people, respectively, spend time in the classroom.

Outside consultants. The concerns of this section so far have been to determine some of the ways staff members of instructional development programs spend their time. This portion registers ways in which people outside of development programs (consultants) render assistance to such programs.

Only one level of consultant was identified, and he apparently was utilized very sparingly. Twelve percent of the programs used such a person to help them in their development activities. Four percent utilized outside consultants to assist with research, 8 percent to help teach, and another 4 percent to assist third parties--i.e., an outside consultant to deal with problems outside of the program or institution.

Anticipated Needs

As with the advisory committee inquiry, the results of the personnel inventory and prognostication were so varied, possibly as the result of a relatively complex question format, that accurate analysis was not possible. Rather than dealing with actual numbers, therefore, the data was grouped to identify trends, Since not all categories--in this case academic backgrounds--applied to every program "no response" answers are omitted from the data reported. For the same reason the percentages reported may not add up to 100 percent. Because of its limited value the "can't tell" category is also omitted.

PhD's needed by instructional development programs. Of the number of PhD's that will be required by Development programs within the next five years, 55 percent of the programs indicate that they will need more than they now have. Five percent of the programs expected a reduction in the number of people with this academic background and 15 percent expected the number to remain constant.

EdD's needed in instructional development programs. While some respondents indicated that the differences between persons holding a PhD degree and those holding an EdD was insignificant, the marked difference in the demand for persons in each category refuted this view. Nearly 61 percent (60.87) of the programs indicated that the number of EdD's engaged in development would remain the same. Only 13 percent said that they would be needing more EdD's within the next five years, and 4.35 percent anticipated a decrease.

Master's degree holders needed in instructional development programs. No distinction mas made between MA, MS, or other master's level programs in the survey. Forty-three percent of the respondents indicated an increased need for people with this level of academic preparation.

Five percent anticipated a decrease in this category and 29 percent felt that the demand would remain relatively the same.

Bachelor's degree holders needed in instructional development programs. As with the master's, there was no distinction between BA, BS or other types of baccalaureate degrees. Fifty percent of the programs indicated an increase in the number of bachelor's degree holders that would be required in their programs in the next five years. Twenty-five percent felt their requirements would remain about the same and no program anticipated any decrease.

Need for personnel in instructional development with less than a baccalaureate degree. Twenty-nine percent of the respondents indicated their need for people with less than a BA/BS degree would increase within the next five years. Another 29 percent said their needs would remain at the current level. Again no respondent indicated a decrease of personnel in this category.

Employee Sources

In its original form this question asked (1) who had recruitment responsibility for full-time employees and (2) the sources for such recruitment. The number of responses which indicated various combinations of the options listed, as well as those who pointed out other possibilities made the first part of the question so diverse as to be meaningless.

Those who answered the second part of the question indicated a strong preference (40 percent) for the college campus as a source of their personnel. Individual (personal) contact accounted for 13 percent of the activity in this regard and professional organizations for only 10 percent of the recruitment contacts. Thirteen percent of the programs had not yet attempted to add personnel to their staff and therefore had no experience as to which source might be the most productive. The balance of the respondents felt that the question did not apply in their particular situation.

Employee Incentives

Incentives appear to be an important part of a third to a half of the instructional development programs surveyed.

For ease of tabulation, the types of incentives were divided into two categories: financial and non-financial. A further division was made as to whether the "employee" was a staff member or a participating faculty member.

With regard to staff members, financial incentives are a part of 32 percent of the programs. Non-financial incentives are available to staff members in 38 percent of the programs.

Participating faculty do much better with regard to non-financial incentives than do staff members (56 percent receive them); however, they do not do quite as well on the financial side with only 30 percent receiving them.

Six percent of the respondents indicated that this question did not apply to their programs. The unaccounted-for balance reflected the incidence of "no response" to the question, presumably due in large part to the fact that incentives are not offered by these other programs.

In-service Training

The question regarding "saw sharpening," or in-service programs intended to update and maintain the skills of staff members, was simplified to reflect only the presence or absence of such programs.

In 22 percent of the cases in-service training is available for program directors. The men immediately below the director have access to such activities in 12 percent of the programs and the men below them--i.e., level three and level four have such update available to 6 percent of their numbers at each of these levels. Interns or other trainees receive in-service training in 14 percent of the programs surveyed and faculty members outside of the program likewise receive such instruction in 14 percent of the cases.

Twelve percent of the respondents indicated that the question was not applicable to their situation. Nearly a quarter (24 percent) of the programs indicated that such training was non-existent, but do not indicate if it will be instituted in the future. Four percent were trying to make such a program operational.

FUNDING

Initially funding was to have been a major part of the study. Questions relating to original, present and anticipated levels of funding; sources of such funds; and presence and purposes of monetary reserves were included in the information being sought. It was further anticipated that these cost factors would provide one of the variables used in the cross tabulations found in Chapter 5.

It was with a great deal of reluctance, therefore, that this aspect of the study had to be significantly reduced. This was necessary for two reasons: the great range of financial support indicated, and the fact that many of the respondents were forbidden, either by precedent or state law, from divulging the amounts expended by their programs.

The items reported in the next two sections are relative, being reported as percent of expenditure rather than dollar volume, and therefore were not effected by the above problems.

Expenditures by Items

The major expense of 66 percent of the instructional development programs surveyed was the salaries paid to their staff.

In 58 percent of the programs the next largest expenditure was for supplies, followed by capital equipment, travel and overhead in 56 percent, 52 percent and

30 percent of the programs, respectively.

Consulting fees (off-campus and on-campus) and "other" expenses, account for the balance of the funds expended in 17 percent, 10 percent and 12 percent of the programs respectively.

Expenditures by Function

Production of developed instruction is the most costly function of 46 percent of the programs surveyed.

Two functions share second-place honors with 44 percent of the programs. These are: project identification and formalization, and utilization. Analysis and design is the next most expensive function in 38 percent of the programs. Validation, public relations, and marketing are expenses in 39 percent, 24 percent and 2 percent of the programs. "Other" expenses are listed by another 2 percent of the programs as an expense source.

FACILITIES

As with funding, facilities were an area where extensive investigation into original, present and anticipated needs was planned. The number of square feet assigned at each of these periods in time, and an indication as to whether it was used "as it was," "modified for use by the program," or if it was "new construction for the program" was also sought.

Here again the wide diversity of responses was significant in reducing the scope of this phase of the investigation to only those items reported in the following three sections. The most significant factor, however, was the recurring assertion that small or antiquated buildings have no relationship to the magnitude of the programs generated there.

An early thesis of the researcher was that if a program was housed in prime space it was some indication of its stature and acceptance by the administration. This theory was discarded early as being unprovable.

Central Geographic Location for Instructional Development Programs

Seventy-eight percent of the institutions inventoried stated that their program was housed in a central location. The question was not applicable to 4 percent of the programs, and 15 percent of the programs were decentralized in terms of their physical location. Two percent of the respondents did not answer the question.

Facility Tenure for Instructional Development Programs

Sixty-four percent of the facilities assigned to the programs surveyed are considered to be permanent structures by their occupants.

Twenty-eight percent of the programs are housed in temporary facilities and the question did not apply to 6 percent of the cases. Again, 2 percent of the programs did not respond to the question.

Program Tenure at Facility Assigned to Instructional Development

Fifty-eight percent of the programs identified are permanently assigned to the facilities they now occupy. Twenty-six percent are temporarily assigned to their present locations and 16 percent felt that the question was not applicable to their situation.

OTHER ASPECTS

This section is designed to accommodate areas of investigation that encompassed more than one of the items previously reported. It is also intended to include items such as attitudes and opinions that by virtue of their very nature should be separated from the factual investigation attempted in the preceding portions of the study.

Obstacles to Effective Development

In its original form this question was part of an inventory inquiring into the relative importance of a number of possible obstacles to effective development. The number of respondents who indicated that all of the possibilities listed were major concerns, or who identified only one or two of the categories, suggested that a more detailed analysis of the question should be made.

Accordingly, the responses of each of the respondents were categorized, substituting descriptors of "most serious," "highly serious," etc. for the numerical values originally entered and summarizing those in each category.

Inasmuch as not all categories applied to all programs, the percentage figures do not take into account the "no response" answers.

Development. Fully 80 percent of the respondents indicated that "lack of sufficient funds" was either the "most serious" problem they faced in attempting to structure an effective instructional development program, or that it was a "highly serious" problem, although 13 percent assigned "low seriousness" to it and 7 percent indicated it was a "serious" concern.

Lack of qualified personnel as an obstacle to effective instructional development. Two-thirds of the programs surveyed reported that the lack of qualified personnel was either their "most serious" or at least a "highly serious" deterrent to effective development (21.62 and 45.45 percent respectively). Eleven percent reported this as being a "serious" concern, while 16 percent said it was of "low seriousness." Five percent felt that this was the least serious of their problems.

Lack of information regarding the process as an obstacle of effective instructional development. Knowledge of what to do to implement an Instructional Development program does not appear to be a major problem. No respondent indicated that this was their "most serious problem" and 43 percent felt that it only had "low seriousness" as a problem at all. Nearly half of the respondents (48.6 percent), however, apparently felt that they needed more information on the topic as they rated it either a "serious" or "highly serious" concern. Only 8.6 percent said that lack of information regarding the instructional development process was their most serious problem.

Lack of knowledge regarding implementation of the process as an obstacle to effective instructional development. Knowledge of how to go about implementing an effective program as opposed to knowing what steps are necessary (reported in a previous section) was not a major concern on the part of three-fourths of the respondents. Three percent of these people did indicate, however, that it was their most serious problem and 21 percent said it was a highly serious matter. No program listed it as their least serious concern.

Lack of faculty interest as an obstacle to effective instructional development. Well over half of the programs indicated that this was either their most serious problem (19 percent) or a highly serious one (42 percent). An additional 30 percent said that it was serious in nature, while only 8 percent indicated that it was of "low seriousness." Again, no program listed this as their least serious concern.

Lack of adequate physical plant facilities as an obstacle to effective instructional development. The lack of necessary physical facilities to adequately perform their assigned function was listed as either a serious or a highly serious problem by 72 percent of the programs. The 9 percent who felt it was their program's most serious problem was balanced by the same percent who felt that it was the least serious problem their program was encountering. An additional 9 percent listed it as a problem of "low seriousness."

Lack of administrative support as an obstacle to effective instructional development. Approximately a third of the program (36.4 percent) indicated that lack of administrative support was a highly serious problem. Nearly a fourth (24.2 percent) felt it was a serious problem, and a like number said it was of low seriousness. At the extreme ends of the scale, 9 percent stated it was their most serious problem while 6 percent indicated that it was their least serious concern.

Lack of production capability as an obstacle to effective instructional development. No program viewed lack of a production capability as their most serious problem. Forty-three percent felt that it was a highly serious problem, however; and 29 percent indicated that it was a serious problem. Another 29 percent said that it was either a problem of low seriousness or their least serious problem (23 percent and 6 percent respectively).

Lack of validation capability as an obstacle to effective instructional development. An equal number of programs (6.5 percent) indicated that this was either their most serious or least serious problem. The largest single response (35.5 percent) was in the "highly serious" category. Twenty-nine percent reported lack of validation as a serious obstacle to effective development, and 23 percent said it was of "low seriousness" in their program.

Lack of means to insure proper utilization of the results of instructional development. The term "institutionalization" is often applied to the problem of how use of developed instruction can be assured. No programs listed this as either their most serious or least serious concern. Three-quarters of the respondents did, however, recognize this as a problem of some magnitude, as they described it as either highly serious (36.4 percent) or serious (39.4 percent). The remainder of the programs surveyed (24.2 percent) felt that it was of "low seriousness."

Other problems interfering with effective instructional development. Only 22 percent of the institutions surveyed indicated that there were problems other than those identified and reported above. These other concerns were time, cited by half of those responding to this question; no support (presumably a different form or level of support identified earlier), listed in one-third of the responses; and salary mentioned by the remaining 16.7 percent.

COMPARISON OF SELECTED VARIABLES

Three variables were identified as being distinguishing characteristics of the programs examined. These characteristics were (1) age of the program, (2) size of the faculty, and (3) funds for development.

A comparison of each of these factors to every other program variable was originally intended. Due to the difficulties encountered with programs who were unwilling or unable to divulge the financial aspects of their activities the comparison of this final variable was abandoned.

Accordingly, age of program and size of faculty were compared with the other program variables identified in the questionnaire. These other variables are contained in the following categories:

1. Emphasis on various ID objectives
2. Type and distribution of development
3. Development program characteristics
4. Changes in strategy and administration
5. Organizational relationships
6. Committees and advisory boards
7. Existing and optimum director control

8. Identification of development needs
9. Determination of project priorities
10. Existence of selected guidelines
11. Anticipated employee needs
12. Expenditures by item and function
13. Location and permanence of facilities
14. Obstacles to effective development
15. Attitudes and opinions regarding ID
16. Methods of institutionalization
17. Employee sources

On an average there were 4.5 points of inquiry made for each of the above categories. Thus, the two major variables of program age and faculty size were compared with more than eighty variables each.

The results of comparing these variables with the age of programs examined are found in Appendix D. Appendix E contains the results of comparing these same variables with the size of the faculty at the institutions questioned.

Although, as previously stated, this study was primarily intended as a descriptive rather than a statistical undertaking, certain statistical data was generated by the computer program used that may be of benefit to others who may wish to pursue aspects of this study further.

That computer program was ANOTAB, a modification of ANSTAT, written by Kent Meyers of the Survey Research Center, Brigham Young University. It provided the following statistical measures:

1. Chi Square
2. Contingency Coefficient
3. Lambda (Guttman's Coefficient of Predictability)
4. Gamma (Goodman and Kruskal's Coefficient of Ordinal Association)

Those comparisons that may have significance are listed below by table number, title, and relevant statistical measure. The applicable measures are abbreviated "(G)" for gamma (Goodman and Kruskal's Coefficient of Ordinal Association) and "(CS)" for Chi Square.

Table no.	Title			Measure
34.	Age of Program	vs.	Director Control over Participating Faculty	(G)
36.	Age of Program	vs.	Director Control over Project Approach	(G)
41.	Age of Program	vs.	Control Director Should Have over Participating Faculty	(G)
43.	Age of Program	vs.	Control Director Should Have over Project Approach	(G)
44.	Age of Program	vs.	Control Director Should Have over Media Section	(G)
46.	Age of Program	vs.	Control Director Should Have over Validation	(G)
48.	Age of Program	vs.	Changes in Administrative Organization	(CS)
54.	Age of Program	vs.	Lack of Interest	(G)
57.	Age of Program	vs.	Lacking Production Capability	(G)
58.	Age of Program	vs.	Lacking Validation Capability	(G)

Table no.			Title	Measure
116.	Size of Faculty	vs.	Control Director Should Have over Participating Faculty	(G)
126.	Size of Faculty	vs.	Lack of Qualified Personnel	(G)
127.	Size of Faculty	vs.	Information Regarding ID Implementation	(G)
129.	Size of Faculty	vs.	Lack of Interest	(G)
131.	Size of Faculty	vs.	Lacking Administrative Support	(G)
142.	Size of Faculty	vs.	ID Staff Members' Attitude Toward Program	(G)
149.	Size of Faculty	vs.	Attitude that Validation is Essential aspect of ID	(CS)
152.	Size of Faculty	vs.	Continuous Reporting Procedures	(CS)

The computer generated values for the above measures are found in Appendices D and E.

Since the relationship between statistical significance and program relevance is unknown, other investigators may wish to pursue the importance of these factors in conducting effective instructional development.

Chapter 5

INTERVIEWS WITH DIRECTORS OF SELECTED INSTRUCTIONAL DEVELOPMENT PROGRAMS

The interview phase of the study was conducted in a different fashion than the traditional method.

Rather than individually questioning the respondents with attendant scheduling problems, variable time allocations, possible interruptions, etc., a "controlled interview" situation was utilized in which the same amount of time, the same setting and the opportunity to respond to the same points of inquiry were made available to each of the respondents.

This was made possible by the format established by R. Irwin Goodman, principal organizer of the session on "Conducting Instructional Development in Higher Education" presented at the 1971 AECT National Convention in Philadelphia.

At this session, lasting nearly three hours, the directors were assembled in a large room along with interested convention attendees, where they in turn responded to a previously furnished set of questions. One disadvantage of this technique is that the extent to which one participant's remarks may have influenced another participant is not known.

The directors were asked to address themselves to the following aspects of their programs:

1. Program philosophy and goals
2. Brief history of the program
3. Organization
    a. Personnel directly involved in the program
    b. Supporting services
    c. Administrative relationships within the college or university
4. Procedures
    a. Project initiation and selection
    b. Instructional development model used
    c. Validation of instruction developed
5. Funding for the program
    a. Source and extent
    b. Distribution
6. Problems
    a. Release time vs. faculty incentives
    b. Cost effectiveness decisions
    c. Quality control
    d. Other

It will be noted that these are the same basic concerns of the more detailed survey reported earlier in this chapter.

This correlation was part of the deliberate attempt to obtain as broad and comprehensive a coverage of the instructional development field as possible.

The five programs and their directors were: Charles R. Schuller, Director, Instructional Media Center, Michigan State University; Norbert Nathenson, Director, Instructional Development Center, State University of New York; Robert G. Stakenas, Director, Instructional Development Center, Florida State University; R. Irwin Goodman, Director, Instructional Development Program, Brigham Young University; and Thomas Schwen, Director, Instructional Development, Indiana University.

In addition to factual presentations on the above programs, written questions were collected from those in attendance and posed to the directors. Also participating in both of these aspects of the program were Dean L. C. Larson, of the Audio Visual Center, Indiana University and M. David Merrill, Director of Instructional Research and Development, Brigham Young University.

The comments and questions follow in the order in which presented. In some cases, nearly the entire text has been left intact; in other instances the pertinent data have been extracted and summarized to avoid redundancy. A recording of the complete session may be obtained from the National Center for Audio Tapes, University of Colorado, Boulder, Colorado 80302.

Michigan State University

The forerunner of Michigan State's Instructional Development Program, as reported by Dr. Charles F. Schuller, was the 1961 announcement by President Hannah that a percent of the university budget had been "taken off the top to be distributed on the basis of the experimentation and efforts that the faculty and the departments would make." This was prompted in part by a continuing shortage of resources, increasing student enrollments and unrest and the resultant need to maximize the effectiveness of existing resources through innovative action.

In 1963 the Instructional Development Service was funded for a three-year period by the Ford Foundation with a grant of $440,000, which was later supplemented by the university.

> This instructional development service includes three segments: the learning services made up of educational psychologists, primarily psychologists with background in the Rand Corporation or comparable kinds of agencies; instructional media center; and evaluation services. The learning services do much of the evaluating. The evaluating services have become an all-university function as well and help particularly in one of the entry points we find in the instructional developmental process as being very good. And that is the instruction and development of better examinations. So you have those three parts to the Instructional Development Service, and in addition have what we call the Educational Development Program or EDP.

EDP is a fund-granting agency with an allocation from the university to fund faculty experimentation. The criteria for acceptability of faculty proposals include generalizability, number of students affected, and provisions for evaluation. Cost-effectiveness is another sought-for factor. An additional provision which provides assurance for continued usage is that the department head and dean must sign the faculty members' application, guaranteeing that if the proposed undertaking worked out successfully, that they would take it over as a part of normal operation--i.e., it would become a logical part of their budget.

Since this program has been in operation (1963) some three or four hundred educational development projects have been undertaken. Of these, approximately two-thirds have involved technology in some form.

The results of this program are portrayed in part in an 8-minute film entitled The Results. This is the second in a series of three films . instructional development currently being produced. (Presumably the series is now complete and available from the Instructional Media Center, Michigan State University, East Lansing.)

Some of the important considerations of instructional development have been summarized by John Haney (Barson, Haney and Lange, 1968) and others who have termed them heuristics.

> First of all we need to take professors where they are and go as far as we can with them. Not by any means all of our professorial staff who were involved in some of these projects have gone all the way or taken all the steps. But we find that once you begin to get the idea through to them they begin to become willing to do the real objective analysis that is

> necessary--to set-up ... behavioral objectives. In short, to develop a real system.
>
> Secondly, you need administrative backing. I demonstrated that we had this from President Hanna's original speech onward. Another aspect of it was that this whole operation was centered in the top academic office of the university, not in any one college and this is important.
>
> Thirdly, you need to have strong technical support services. We have had the instructional media center of Michigan State University for some 18 years. And we are doing the kinds of things which have the term called instructional development even in much earlier days. We've built a foundation, in other words, for many of the things that have happened since.
>
> Finally, there needs to be a departmental and a university-wide commitment both in terms of physical facilities and in terms of allocation of resources, and in terms of the general understanding everyone has--that somenow or other this program is essential to the total instructional effort.
>
> And finally, you need to have a good deal of faculty initiative buildup somehow because you cannot impose the systems from above--you've got to have them generating from the faculty so that they have a real feeling that the project is theirs rather than somebody elses.

State University of New York

With seventy institutions in the State University of New York (SUNY) system, their instructional development program is of necessity conducted differently than at the other institutions examined. It is for this reason that its workings are reported in greater detail than the other programs.

Dr. Norbert Nathanson, director of this program, identified several phases of development experienced by SUNY:

> The first phase began in 1960 when the State University began to design a new type of instructional facility, the Lecture Hall Communications Center. These were designed to enable campuses to make use of communications media in instruction and also to provide a means for development of new instructional models. To date some twenty-six such facilities are in various

stages of completion and there are some others on the planning boards. That's still ongoing and I will call that an architectural and building stage.

The second stage began in August of 1965 when the university established the Office of Educational Communications. Its first responsibilities were to develop and operate a television network interconnecting the educational television stations in New York state, and also to establish a program which was called the "University of the Air" which would permit residents of the state to earn college credit or to study at home for self-improvement by television. This stage I call a media development stage. That's primarily what it was--hardware, software--building a network and developing television programs to extend the services of the university to the public at large through the network.

The third stage is an instructional development stage. This began in 1966 when the Office of Educational Communications assumed overall responsibility for the campus educational communications programs--those are the programs that originated and are ongoing in the individual campus communications lecture halls. The Office subsequently established a Division of Instructional Resources located in Albany and the responsibilities of this division were to coordinate these local campuses and programs. Also the responsibilities included initiation of research and the application of technology to instruction, and the phase represented a change from what it has been, essentially a technical and a logistical operation, to one which was experiment and research oriented; and the emphasis changed from one which had concentrated on media development as a means of servicing instruction to one which concentrated on the instructional process directly. And it is this particular stage of which I will speak at some length.

The fourth stage is an educational development stage. And this is one we have just begun--we are in it now. In the fall of 1970 we got a new chancellor, Dr. Ernest Boyer. Dr. Boyer has created a new office of educational development under a university dean for educational development within the office of the vice-chancellor for academic programs.

The Office of Educational Communications, of which I have been a part of for several years, and the Office of Continuing Education have been merged into this office. A new Office of Educational Development brings greater visibility to the development function and can provide a broader and more effective program within which previous programs will be coordinated, supported, redirected, and merged in order to meet university needs. That process is currently taking place.

> So we've had architectural development, media development, instructional development, and now educational development, which really encompasses all of the previous ones. Knowing what we know now we wouldn't plan a sequence of events that way. The educational development program certainly should come first and the various pieces of it should be coordinated within it.

Nathanson then moved from the historical aspects of SUNY's program to its conceptual framework, as seen from the central administration's point of view.

> Educational development, in my view, is a process which provides an instructional and institutional guidance function. A university educational development program, again in my view, analyzes the institution's structure, goals, and objectives; measures its operations and procedures; evaluates the measurements to determine the likelihood of goal attainment and develops prototypical solutions. It then makes recommendations for increasing the institution's effectiveness, provides plans, directions and programs for guiding the process of institutional change to bring about institutional renewals.
>
> Instructional development as we have viewed it, is only part of educational development, but it is a process whereby essentially the same functions are performed but within the narrower aspect of instruction. It is however, a key part. The heart of the university is the instructional program. Despite the organizational functions engulfing it, education is basically teaching and learning. And it is the heart of that system in the instructional program that change must begin. It's not, in our experience, an isolated phenomenon. However, both its initiation and successful continuance are dependent upon change in the total organizational structure. As higher education evolves, new structures, new processes and new techniques, it can begin to regain the relevancy that it has been accused now of not having. Changes no longer, however, are questions for debate. It's mandatory for survival of the institution and the society it sustains.
>
> The conditions that we view as surrounding the university are essentially these: rapidly rising enrollments; greater depletion of the social dollar, resulting in smaller dollar increases in relationship to enrollment increase; increase in the acceleration of the unionization process among teaching faculties which imposes threats of locking instructional, fiscal, and administrative processes of the university in traditional

patterns. And a rising discontent on the part of both students and the community at large with the relevancy and effectiveness of the services that the university provides for each.

Because of these conditions the problems which we face are how to maintain the quality of instruction or improve it? How do we reduce the cost of instruction? How to make university services more relevant? And how to increase the volume, variety, and quality of university services to a community at large. In short, the university must provide for lower costs, better and more learning for more students, with a wider variety of levels and programs which are relevant to those students.

It's relatively easy to lower the instructional cost on a per unit basis by increasing studen -teacher ratio. And this is happening. Increase in student-to-teacher ratio however, does not necessarily insure continuation of the same level or quality of instruction. In fact, there is reason to believe that increasing the ratio beyond a certain point may decrease student motivation and increases student discontent, thus adversely affecting learning. Student resistance to large groups' impersonalized instruction in California in the '60's might be a case in point.

The problem which presents itself then when there is an increase to a student-to-teacher ratio is how to decrease a per-unit cost of instruction without either decreasing the quality of instruction in learning or lessening the motivation for students. And I would hope that we could increase the ratio and at the same time increase the quality of instruction. At any event, it is in the process of developing the alternative solutions to this problem that the instructional function itself must be examined. Why do we teach? How do we teach? How effective is it? What are the students learning? And the new approach is designed and evaluated.

Such change requires certain prerequisites. Dr. Schuller has mentioned some of them; I group them in three categories.

The first: a catalytic change agent, an administrative agency which is empowered to act.

Second, resources: man, machine, materials, money --that which is necessary to initiate change.

Third, capability: the proven methods and processes, and in order to acquire the capability we have to experiment.

By way of illustration, if I hired a stone mason and commissioned him to build a wall, he's the agent and he's empowered to act. My money, his bricks, his mortar are the sources, and his years of experience in perfecting his skill as a mason is the capability--the

> proven method, the proven process, without which we would never get the wall built. This is the area of experimentation in getting the proven methods and materials. That's pretty much what our conceptual viewpoint has been.

Focusing his attention on "phase three" of SUNY's program, Nathanson again provided an historical context for his remarks, this time for instructional development _per se_.

> In 1968 the Office [of Educational Communications] initiated a pilot program in instructional development; it's general purpose was to initiate some change in the instructional process. This program assumed responsibility for experimentation, application, field testing, and evaluation of instructional systems and instructional material for the purpose of obtaining cost-learning effectiveness in the instructional process. The office viewed the main thrust of its effort as implementing the broad application of technology for the instructional process in order to maintain and improve the quality of instruction in the face of increasing demands and relatively fewer funds. It assumed that to the extent it could be successful in its mission, the structure of education within the university would be radically altered in the future. The role of the student and teacher would change. Faculty-student ratios would be different; present budgetary formulas would be revised; and the quality of instruction improved.
>
> To implement this direction, the office reorganized in the winter of 1969-70 into five major divisions. I won't go into these in detail now in the interest of time but later I can discuss them if you like. Basically, the organization was general administration, educational communication services, communications operations, research, and educational communications development.

The goals of the Instructional Development Program were:

> 1. To articulate the goals of the university Instructional Development Program to design, test, and evaluate methods of implementing such a program.
> 2. To identify problems which arise when new development activities are juxtaposed with traditional, physical, administrative, and instructional methods, procedures, and processes.

3. To establish procedures, methods, and standards for instructional development.
4. To establish a development capability on local campuses which is commensurate with the scope and the mission of that campus.
5. To establish the mechanism whereby instructional development may proceed from a local campus level to a multi-campus level to a university-wide level.
6. To directly participate in the implementation and execution of instructional development activities in those areas which are of university-wide concern.
7. Very ambitiously, try to find out how to do the first six.

Reflecting the continuing concerns of a central administration program within a multi-campus university, three levels of instructional development are recognized and facilitated at SUNY.

> First, the local level. Campus educational communication centers are currently engaged in completing, equipping and staffing facilities, establishing basic services, and developing an instructional research and developmental capability as well as an instructional development program, as a major function in each of the centers. These programs provide a focal point for instructional innovation on the respective campuses.
>
> In order for a research and developmental program to realize its potential it's important that each campus develop the capability and personnel and facilities and methods to serve its local research and developmental needs. The instructional development program has partially funded local campus development projects.
>
> At the [second, or] multi-campus level, there are instances within the university where two or more campuses have the same instructional problem or need which can be solved or satisfied by a cooperative effort. As these commonalities have emerged during the course of instructional development, the instructional development program has coordinated the multi-campus activities for the mutual advantage and benefit of each. Thus a new set of materials or a new course structure designed at one campus might be utilized at another or disparate materials developed separately might be combined, switched, traded--and so forth--and we have organized an educational recordings library, a nonprint library, in the office of educational

> communications to implement such material usage.
>
> Finally, the university-wide level. The Instructional Development Program has been involved in developing instructional communications systems, materials, and equipment, and developing prototype instructional applications of communications technology to meet university-wide needs. More specifically, the program has developed prototype instructional applications of communication technology. Models that can be generalized to the solution of other instructional problems in other courses at other campuses. By providing funds to facilitate faculty and staff involvement in the development process, the program seeks to increase local development capability which ultimately will be able to satisfy the needs of the local campus.

The purposes of these models created through the development process are to (1) improve learning, (2) solve logistical problems, and (3) to reduce the cost of instruction.

Initially development activities were attached to a particular medium such as slides, television, etc., however recent activity is directed toward the needs of the courses being modified.

> . . . Thus the course configuration comprising integral parts--media, classroom, studying, self-study, lectures, student-instructor roles--represents a structure which expresses new and improved methods and course organization on a cost-effective basis.
>
> It's important to note that as the capability and quality of the local campus development programs improve, they will generate increased needs for multi-campus development and utilization activities. As this occurs the central administration involvement in a local campus instructional program will be minimized in favor of increased involvement in multi-campus and university-wide activities. I should have said that a typical university-wide activity might be a development of a particular course or set of materials which can be utilized across the university.
>
> So in summary, we have tried in this program to develop generalizable instructional models; to develop mechanisms and procedures for instructional development; to increase resources; to coordinate university-wide efforts; and to develop our own capabilities.

Florida State University

Dr. Robert Stakenas credits the creation of Florida State's Division of Instruction and Service (DIRS) to Dr. Larry Chalmers, then Vice President for Academic Affairs. It was Dr. Chalmers' contention that college faculties were ill-equipped to instruct large numbers of undergraduate students. To correct this situation he felt that the faculty should have expert advice and services available in order to improve the overall quality of the university's instructional program, thus the establishment of DIRS on July 1, 1968.

Initially DIRS was a linking of five previously established entities: the Institute of Human Learning (now known as the Instructional Development Center), a Media Center, the Office of Evaluation Services, a computer-assisted instruction center and the Center for Research and College Instruction of Science and Mathematics (CRSISAM).

DIRS, an independent division of the university equivalent to a school or college (but without an academic program of its own), currently employs some sixty-seven full-time and seventy-seven part-time faculty. The director is equivalent to a dean, serves on the Council of Deans, and reports to the Vice President for Academic Affairs.

Faculty members are college "faculty research associates" and hold appointments in relevant academic departments. A twelve-member faculty committee, known as the Council for Instruction, serves in an advisory capacity to DIRS and also maintains the instructional grant program. Funding for the computer-assisted instruction center and CRCISAM comes from external grants and contracts: the balance of the sections within DIRS are financed out of the general funds of the university.

Within DIRS is Instructional Development and Services which includes the Instructional Development Center, the Media Center with its sub-units and the Office of Evaluation Services.

Included within the Instructional Development Center are the functions of research and information dissemination. The instructional design group also works out of the center.

An associate director coordinates the activities of these three organizations to insure effective interdependence.

In order to provide faculty with sufficient time to adequately develop their instruction, a Council for Instructional Awards program was initiated in 1963 to recognize excellence in teaching, and more recently "the emphasis has shifted from recognition to the creation of improvement of effective teaching."

With regard to project selection,

> . . . Any faculty member may call on . . . DIRS for assistance. Although DIRS personnel participate in defining objectives, defining evaluations procedures and so forth, final responsibility and authority rests with the faculty member.

Preference in the selection of major projects is given to lower division undergraduate instruction, and to projects that have "the greatest prospect of serving as models of effective instructional practice."

Samples of "Micro-Instruction," an audio-tutorial course on geography and a CAI-taught programmed instruction course were also referenced.

In summary, the attempts to improve instruction at Florida State follow the process of (1) problem identification, (2) research and development of instructional models and materials, (3) studies of cost-effectiveness and feasibility, and (4) diffusion and dissemination.

Brigham Young University

The Instructional Development Program at BYU was, like at Michigan State, an outgrowth of the media program, beginning with the Educational Media Services Department.

A Department of Instructional Research and Development was formed at approximately the same time (1969) and along with the other departments of the Division of Instructional Services (DIS), provided the necessary resources for instructional development. At the same time an instructional development program was organized with its director reporting directly to the director of the Division of Instructional Services.

The division director, Darrel J. Monson, reports variously to the academic vice president, executive vice president and to a special assistant to the president who is specifically charged with coordination of communication and instructional services."

Other departments within DIS include Broadcast Services, with its on-the-air educational radio and television stations. Instructional Television is responsible for programming instruction for use on campus, and this is the part of Broadcast Services that relates to the Instructional Development Program.

The Electronic Media Department handles equipment repair, installation, etc., and very little relates to instructional development. Exceptions to this are the audio recording and tape duplication facilities. This department is also responsible for portable television systems that are taken into the classroom.

Educational Media Services takes care of the film library and equipment circulation, and in addition maintains an information retrieval system, both audio and video, in the library and are expanding this into branch learning centers. This department also is responsible for a multi-media student response system for presentation of materials developed through the IDP. Educational Media also keeps files on current learning materials for ready identification of available instructional materials.

Instructional Photo/Graphics Productions handles still photography, graphics and multi-media programming. They are also responsible for a faculty lab where faculty can produce their own instructional materials.

The Motion Picture Department handles both motion picture and filmstrip production. They have two sound stages 80' x 100' with all the related equipment.

Instructional Research and Development provides assistance in general programming, instructional strategies and behavioral objectives. The department also has a research role and capability and "provides the back-up design--evaluation support through instructional psychologists who also double role in research . . . ."

In addition to the departmental divisions are two staff positions: one for special services (administration, personnel, space utilization, budgetary considerations, publications, etc.), and one to "coordinate the instructional development activities of the six departments."

There is also a faculty advisory committee who assists in the selection of projects and formulation of policy--residuals for example.

Other on-campus agencies that assist, while not formally being a part of the development program, are Institutional Research and the Testing Service. Institutional Research provides information on student characteristics, which are the high enrollment classes and other pertinent data. The Testing Service can be called to administer and machine-score standardized and other tests.

Projects are solicited from the faculty twice a year on forms specially prepared to aid in evaluating their needs. These proposals are examined to first determine if there is an instructional need, or if the problem is really a management or counseling concern.

After ascertaining that there is in fact an instructional need, ID staff members obtain further information, such as what is presently being done to correct the problem, how many people in the class there are, what the general educational requirements are, and so on.

Ability of the development program to handle the proposal and budget needed for the project are also considerations at this time.

Assisting in this initial assessment is the Instructional Development Advisory Committee who have a set of criteria by which they determine those proposals having the greatest chance of success.

The next step on the part of IDP is to identify the type of learning most appropriate to the content. Most faculty come in with "memorization-type goals" and the attempt is made to "push them as far up the hierarchy" (Gagné's) as possible. Terminal and enabling objectives are then structured by the faculty members following receipt of information on how to do this. Members of the Instructional Research and Development Department (IR&D) review these objectives and refine them if needed.

After the objectives are defined, terminal evaluation procedures are developed, as are intermediate and preentry evaluation.

Assumptions made up to this point are tried out on a sample of the student population to "see where they are in fact in this learning sequence." This is also done with the assistance of IR&D who may suggest alternate approaches, what should be emphasized or de-emphasized.

In the strategy phase of the development process modes of instruction are examined, again following the Gagné model.

The analysis phase includes an examination of the media in terms of what kinds of displays are needed to put across certain objectives to a particular audience. The need to adapt and/or produce media if appropriate types are not available is recognized and endorsed by the IDP.

Following media acquisition the resulting instructional package then goes to a preliminary tryout. Revision and tryout with a larger group leads to field testing with actual groups in a regular use situation. A final report concludes the process.

Indiana University

Dr. Thomas Schwen introduced his comments regarding Indiana's program by noting that in instructional development

> . . . we're reporting more and more to the highest level of the university structure. We are beginning to see titles [among developers] like associate dean and assistant vice-chancellor. . . . It seems to be an encouraging sign.

He also observed that a "new breed" of developer is emerging, one with increased training and professional competence. Another concern was that relations with faculty members will become increasingly difficult as problems of academic freedom, and social-political factors relating to staffing and cost-effectiveness become more pronounced.

A new instructional development structure is emerging at Indiana University. Within the office of the Dean for Academic Affairs there now exists an Associate Dean for Instructional Development. This latter office is divided into an "operational arm and a new instructional development arm which remains to be approved."

Within the "operational arm" is the Bureau of Test and Studies, a state-wide television distribution system (IHET), radio and television, the new library and the Audio Visual Center.

The University Support Program and the revolving fund operation within the Audio Visual Center will provide educational development from this operational arm.

An advisory function, also new, will include "a university-wide committee on research and learning and teaching . . . " along with a council of instructional development professionals " . . . which will serve as an advisory function. . . ."

Additionally, there will be "an administrative committee that sets the priorities for all of these operational units. . . ." This committee will consist of the Associate Dean for Academic Affairs, the Director of the Audio Visual Center, Director of Radio and Television, a representative of each chancellor's office and the chairmen of the advisory committee.

A management process will be used in which members of the administrative units will be called upon to form ad hoc committees to

> . . . function for the duration of a project that has been set by this priorities committee, and then they will disband and go back to their administrative unit upon completion of the project.

These committees will be performing functions in the following areas:

Educational Media Services: educational material service, motion picture production, photographic and graphic services.

Broadcast Services: instructional radio, instructional television and the telecommunication systems.

Research and Development: Bureau of Educational Tests and Studies, the Research and Learning Committee, and the area of learning services.

Functions will be separated into the development of individual faculty members and the broad-based course and curriculum development where "the emphasis will be more specifically on the course and the cost and the strategies for implementing that sort of instruction."

A new priority system will concern itself very early with "the matter of staffing very large undergraduate instructional offering."

Annual budget for these functions will exceed $1.5 million.

Non-Scheduled Interview Questions

Following the responses to the scheduled interview questions by each of the representatives of the five selected programs, non-scheduled questions were posed by the convention session attendees; this researcher included.

Time constraints permitted detailed responses to only two questions by the instructional development program representatives. Those answers are reported in this section along with other questions posed, but unanswered.

The purpose in both of these cases is to indicate the problems and concerns of persons interested in the development process.

Question #1. Two similar questions paraphrased by the moderator and presented to the panel as, "Should you try to help faculty members be developers, or should you train developers to do packages which you could sell to the faculty members?"

SCHULLER:

If developers attempted to carry on this entire process for faculty, a top-heavy organization (too many developers) would emerge before long, and the chances of developing something that faculty would not use become very real. This impetus (for instructional development) has to have the full support of, and must come from, the faculty. Developers do not have the time to write all their objectives for them, they must do it themselves. The developers' job is to train them how.

"People are needed who have an expertise in this area plus an ability to work effectively with faculty."

LARSON:

Speaking in terms of future roles, diagnosticians will be needed to determine the learning needs and prescribe therapy.

> One kind of therapy is information therapy. You'd have prescriptions and your content people would package the information as a pharmacist does Perhaps 'f they get information indigestion, you'd want to move to an inquire-problem-solving therapist. In other words, this now is altogether a different kind of approach and altogether a different kind of role in terms of the traditional academician.

NATHANSEN:

> . . . As you begin to develop instructional package materials and move from a labor intensive situation into a capital intensive situation, what you are doing is buying faculty time. You are teaching more people with fewer faculty contact hours. How what are you going to do with time? [sic] We suggest that some of this time can be redeveloped immediately into different kinds of modes. We suggest that where you are going to buy most of this time is from the information presentation aspects of teaching and you're going to be able to plow some of that back into, what I call, the judgmental aspects of teaching --small groups, seminars, tutorials, discussions, so forth. But I would say that what you do with some of that time is you assign it to the developmental function so what happens is that part of the changing role of the teacher in the future will be less time spent in the information presentation; more time in the judgmental activities; and some time in the developmental, because the developmental process in effect completes the cycle and buys you more time.

STAKENAS:

> We have a here-and-now problem and that here-and-now problem is to teach more effectively, students of varying background and abilities, and we've got to get on with it and I think that one effective way is to help our present instructors learn to do their job better.

GOODMAN:

It is impossible for developers to become specialists in all curricular areas, "nor can all our faculty become specialists in development so we form teams . . . ." If the developer

> . . . can talk the language of the subject matter specialists, and to the extent that he can and knows the subject, the efficiency of the team has increased. [To] the extent that he doesn't [it] takes a while to get going . . . .

SCHWEN:

> . . . We've talked about [an] immediate emergency solution, which is working with faculty as they are; intermediate solutions . . . which include training professionals . . . and we have long-term solutions . . . .

If the majority of the costs are instructional costs, "the term cost effective is not going to mean anything unless we start changing these ratios of students to teachers in some meaningful way."

The answer to the problem, on a long-term basis, then relies on a more favorable student-teacher ratio.

MERRILL:

> . . . It's unreasonable to suspect that [in] a few weeks of time you can train a faculty member to be an expert in instructional development. If that's the case then some of us ought to look very carefully at what we're trained to do. If we've spent our whole career learning to become an instructional developer

> and then we think we can turn around and train a physicist to an instructional developer in a couple of weeks, I wonder if we're not kidding ourselves about how important we are. On the other hand, maybe that's the case.

Question #2. In the interest of time the moderator asked the participants to consecutively answer, "What kind of incentive system encourages faculty innovations and development?" and "What's the minimal staffing required to carry on an instructional development operation in the university [setting]?" Simplified, the questions were presented to the respondents as: "Faculty incentive and what kind of staff do you need to support faculty?"

SCHULLER:

". . . If the business of instructional development itself has any meaning, teaching is certainly one of the more important services or functions that a university performs."

To improve the quality of teaching at Michigan State, "Distinguished Teaching Awards" which include a cash award have been established from the university budget.

LARSON:

> Let me make a radical comment in terms of great time in the future perhaps. To me, one needs diagnosticians in terms of what the learning needs are and then go on from there in terms of therapy. One kind of therapy is information.

STAKENAS:

At Florida State the incentive approach is not to reward a faculty member, but to fund a course to support course development. This prevents the development of instructional products "that are personality or individual-professor oriented." The problem with this is that if that personality loses interest or leaves, the developed materials may not find acceptance with successors.

With regard to optimal staffing, it depends on what your needs for service are and how fast you want to get your work done. "If you don't have very many faculty members coming and asking for service you don't need many service personnel." You probably ". . . need to decide what will be the amount of request for service and then tool up for whatever that level is."

GOODMAN:

Speaking only to the second question, the kind of staff needed, " . . . if you had one person who was skilled in instructional developments . . . this person could work with media people. He essentially buys services." Even if there were not media personnel on campus, the developer could help faculty produce things themselves. The answer to the question really depends on "how much do you want to do and how deeply do you want to be involved in the development process; how fast do you want to go?"

SCHWEN:

Extending the staffing problem a little further, Indiana University is finding that "fifty hours is spent in developing one contact hour of instruction." The fifty hours include both developer and instructor time.

NATHANSON:

A comprehensive staffing study of SUNY's Educational Communications Centers is nearing completion and will soon be available from David Humphrey, Office of Educational Development, State University of New York, Albany.

MERRILL:

> It seems to me this whole question of faculty incentives is a crucial issue that faces all of us that are involved in this problem. We're faced with the problem right now of two or three of the products we've developed is [sic] now being sought by commercial publishers for reproduction. The big question is, what happens to royalties? Do they go to the university; do some go to the faculty member; or some to the university? How do you determine the amount of involvement? What about the people that are instructional developers who spend at least as much time as the faculty member involved? Do you wipe them out? A myriad of questions. I hope that by this time next year we'll have some sad experiences if not answers. This is a very complex issue but I think an issue that will really be worthwhile to pursue. I know one of the other things we've talked about--it's in process with our administration at the moment--is an external incentive program--our home study program, for example, pays the faculty a small stipend to develop a home study course, external to their salary.

Other Programs

In addition to the program information summarized in this chapter, information from other development programs was solicited and made available. This information was in the form of one-page handouts, copies of which are found in Appendix C.

Chapter 6

CONCLUSIONS AND APPLICATION OF THE STUDY

The lack of a clear-cut definition for the term "instructional development" (Stowe, 1971) may have been the largest single factor effecting the outcome of this study. Of the 842 potential responders who were asked if they were currently close enough to a functioning instructional development program to permit accurate observation, only 124 replied that they were, and that they would be willing to participate in the study. Of this number, half actually completed and returned the questionnaire.

Examination of these completed questionnaires disclosed that fully a dozen respondents did not qualify under the definition of "instructional development" furnished at the outset, or were functioning outside of the area of higher education, which was the focal point of the study. Accordingly, only fifty responses were used in the final tabulations.

This ratio compares quite favorably with the results obtained by Engle (1969) who contacted 1,269 Deans of Faculties, received 131 responses and from these obtained seventy-two completed questionnaires.

The somewhat higher rate of return in this study may be attributed to the fact that the initial mailing list (details of its composition are found in Chapter 3) consisted of the names of persons with a reasonable probability of being engaged in instructional development, as opposed to a blanket mailing.

It may well be in both cases that a substantially larger--or smaller--number of people are actually engaged in this activity than the figures indicate, but due to the lack of a widespread understanding of what constitutes "ID," it has been erroneously assumed that ID either was or was not going on when in fact the opposite was true. Another factor contributing to the high mortality rate among potential respondents may have been the length and complexity of the questionnaire. Engle, for example, had four major points of inquiry; this study had seventeen.

A basic difference in approach between this study and the one cited above was that in the latter case, programs were evaluated as to being "best" or "worst," or somewhere in between, based on the results obtained by applying a stepwise multiple discriminant analysis to the scores of the questionnaires received. In so doing, identification of the "best" programs is obscured in order to protect the identity of the "worst" ones.

No such value judgment has been rendered here. The reason for this latter approach was the belief of this investigator that the maximum value of a field project derives from its practicality and applicability.

Accordingly, all respondents have been identified and their programs have been described to the extent they wished to have this data divulged.

The hoped-for end result of this approach is that persons contemplating the establishment of an instructional development program may compare the characteristics of their institution to those recorded here and discover how others with approximately similar problems have approached those problems. It was for this reason that the voluminous tables are included in the Appendix. Organization charts, procedural schematics and statistical comparisons are provided to assist in this regard, as well as names and addresses for direct personal contact.

UNIVERSAL INSTRUCTIONAL DEVELOPMENT MODEL

One of the initial objectives of this study was to derive a universal model for instructional development that could be followed by new programs or could be used as a checkpoint for existing programs. Due to the great number of variables and the highly pragmatic nature of the process, it was concluded that a definitive model of this nature is not feasible.

The potential user of developed instruction is therefore offered the resources referred to above to construct his own model, one that best fits the needs of his institution. Suggestions as to how this might best be done are offered later in this chapter.

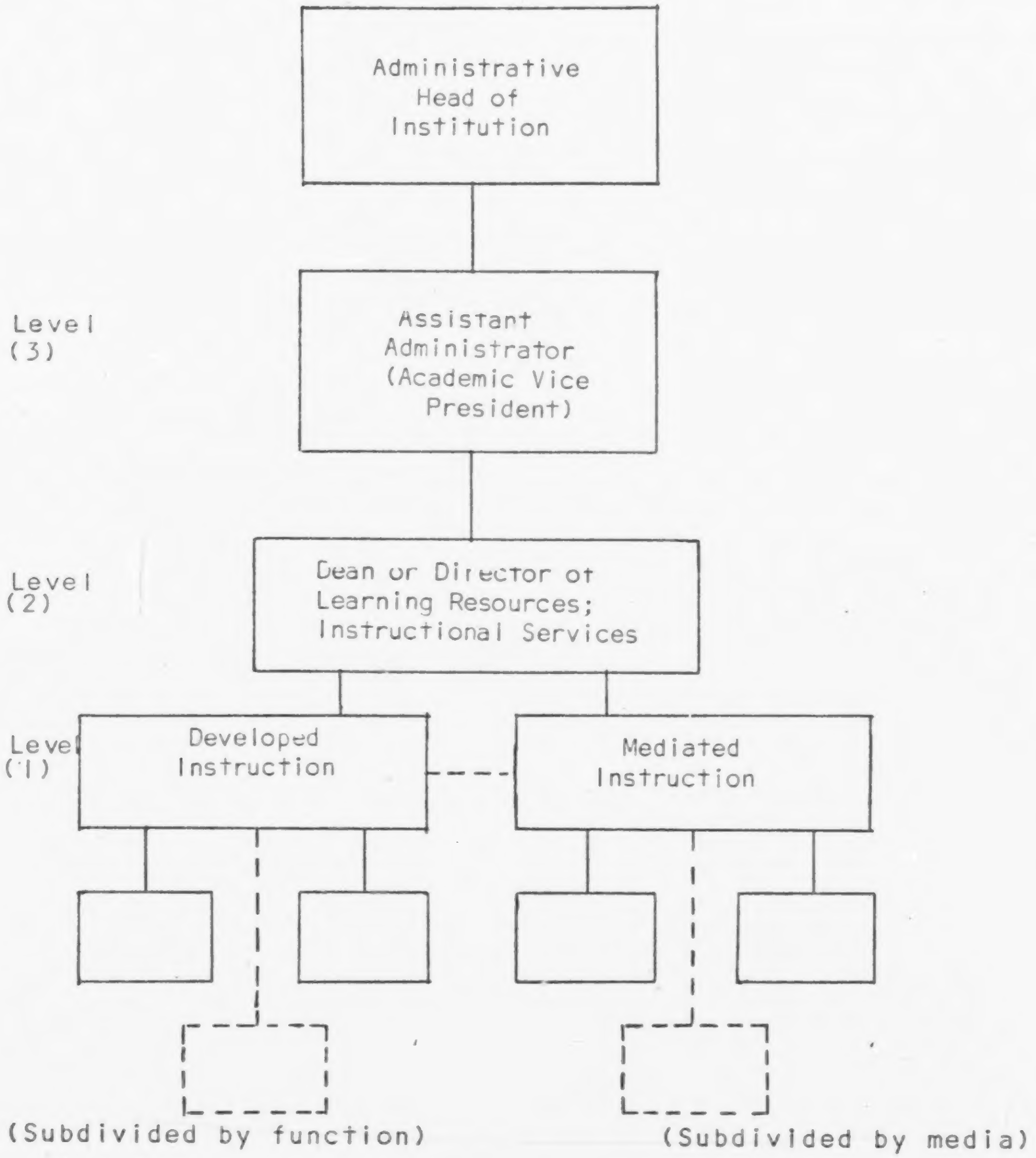
Administrative Head of Institution
Level (3)
Assistant Administrator (Academic Vice President)
Level (2)
Dean or Director of Learning Resources; Instructional Services
Level (1)
Developed Instruction
Mediated Instruction
(Subdivided by function)
(Subdivided by media)

Figure 59. Composite Organizational Chart for Instructional Development

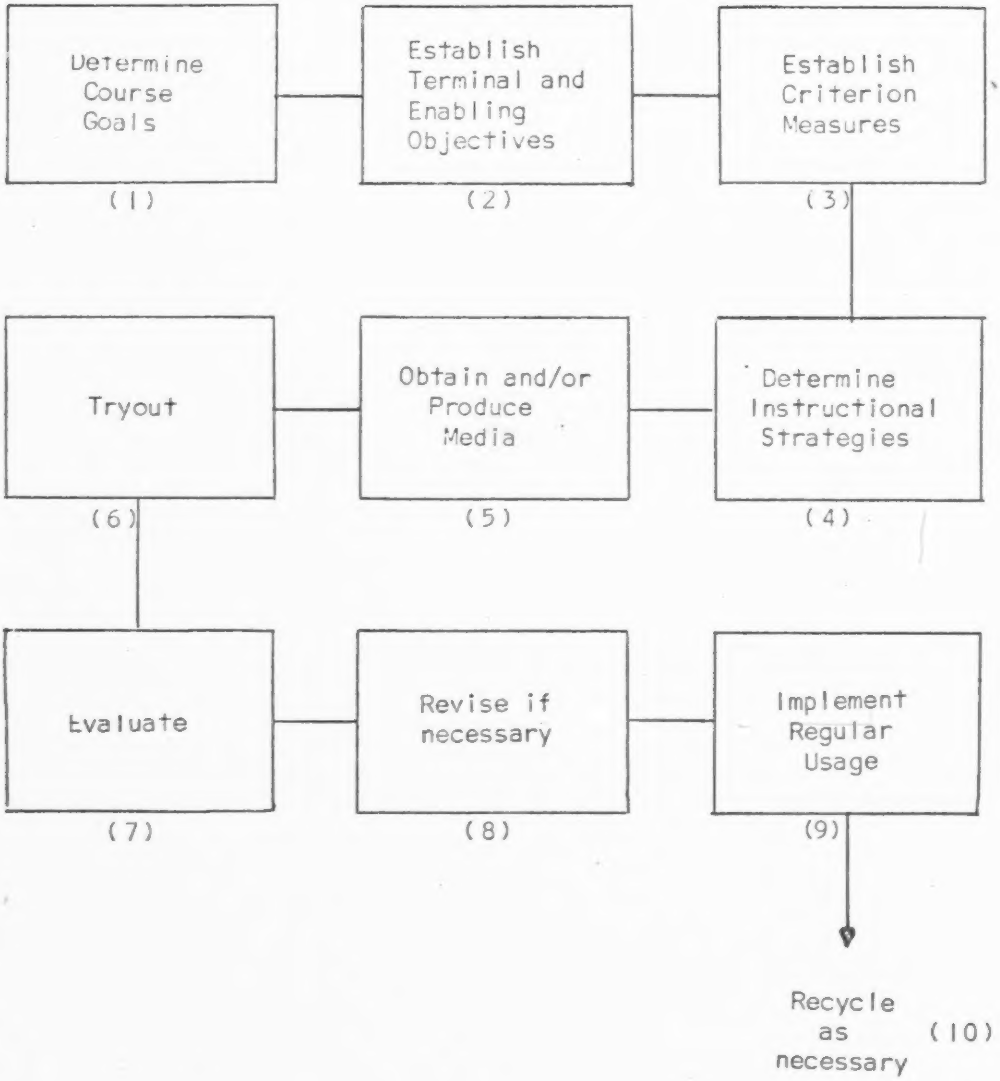
Determine Course Goals
(1)
Establish Terminal and Enabling Objectives
(2)
Establish Criterion Measures
(3)
Determine Instructional Strategies
(4)
Obtain and/or Produce Media
(5)
Tryout
(6)
Evaluate
(7)
Revise if necessary
(8)
Implement Regular Usage
(9)
Recycle as necessary
(10)

Figure 60. Composite Procedural Schematic for Instructional Development

Some of the distinctive elements of the composite model organization (Figure 59) that may escape casual inspection follow. (Numbers correspond to the levels indicated on the figure.)

1. In terms of learner benefit, instructional development is not a total panacea. There is still a need for the less rigorous "mediated" instruction, which includes the production aspect of development and often design as well.

2. To insure that instructors have this option as to how they may improve their instruction (i.e.--through complete development, through media embellishment, or some place in between) a common administrative superior would prove to be most helpful.

Should the media support functions be subservient to the instructional development program, and should there be no administrative "referee," a faculty member wanting some slides routinely reproduced, for example, might be told that his behavioral objectives, instructional strategy and learning evaluation procedures would have to be examined before the work could be done.

3. Given instructional improvement as the primary objective of developed instruction, and the desirability of its institutionalization for cost effectiveness reasons, then ultimate responsibility for the development program needs to lie as high on the administrative chain-of-command as is functionally feasible. This would most probably be the academic vice president in the setting examined.

Procedurally the composite model (Figure 60) is relatively straight forward as it combines the most frequently stated steps identified by the programs responding in the study. These steps, listed below, are defined and referenced. The reference number (in parentheses) corresponds to the figure describing a program with the same or a similar step.

1. Determine Course Goals. Establishment of the broad general objectives of the course or unit of instruction. (38, 40, 45, 46, 48, 53, 54)

2. Establish Terminal and Enabling Objectives. Identification of what the learner is expected to do upon completion of the instruction and what he must know or be able to do prior to the commencement of that instruction. (38, 39, 40, 41, 42, 43, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 56, 58)

3. Establish Criterion Measures. Determination of what will constitute acceptable performance of the task to be learned and how that performance will be demonstrated. (38, 39, 40, 43, 45, 48, 50, 56)

4. Determine Instructional Strategies. Ascertain how the instruction shall be presented--i.e., group size, setting, with what media, etc. (39, 41, 43, 45, 46, 48, 50, 51, 53, 55, 56)

5. Obtain and/or Produce Media. If the use of media is called for, then existing media should be used, adapted for use or new media produced as appropriate. (38,

39, 41, 45, 46, 48, 49, 50, 51, 52, 53, 56)

6. Tryout. The instruction is applied to a sample group of learners in the same way that it would be used with the total learning population. (38, 39, 40, 43, 45, 46, 48, 49, 50, 51, 52, 53, 56, 57, 58)

7. Evaluate. Tryout results are examined to determine if they are satisfactory as judged by the accomplishment of the terminal objectives of the instruction. Final results of the instruction go through this same step. (38, 39, 41, 42, 45, 48, 49, 50, 51, 52, 53, 55, 56, 58)

8. Revise if Necessary. Modification of the instruction or of one or more of the above steps may be necessary if the desired results were not obtained during the tryout. (39, 40, 43, 45, 46, 48, 50, 51, 52, 53, 56, 57)

9. Implement Regular Usage. If the tryout, either initially or after revision, is satisfactory then the developed instruction is adopted as the method whereby the desired learning will be presented. (39, 42, 43, 45, 46, 48, 51, 56, 57, 58)

10. Recycle as Necessary. Further revision and/or modification of the system may be needed to provide for update and to allow for changing audience or other characteristics. (38, 39, 40, 42, 43, 45, 51, 53, 56)

The model shown in Figure 60 is intended to identify only the major development steps used by most of the programs examined and is not designed to be sufficiently detailed to suggest the relative importance or difficulty of the various steps.

To attempt to describe or represent an organization and/or process using only a model is roughly equivalent to writing a novel in outline form. All of the major elements may be present, but to gain an understanding and appreciation of what it is all about, sufficient description and detail must be added to give life to the work.

TYPICAL PROGRAM CHARACTERISTICS

It is with this lifegiving objective in mind that the following additional characteristics of the typical or composite instructional development program are offered. These characteristics are reported in the order found on the questionnaire. (Parenthetical numbers refer to tables that support these conclusions, brackets refer to page numbers that do the same.)

1. The major objective of the program is to improve the quality of instruction at the parent institution. Notwithstanding this goal, however, only half of the time of program personnel is spent in this fashion. Teaching, administration, and research are the biggest factors that cut into the available time. (7-11; 83-86)

2. The end result of the development effort is a tangible instructional product. This product, while developed primarily for the sponsoring institution, can also be obtained by interested persons outside of the system (12, 13, 87, 88)

3. In general, an innovative rather than restrictive atmosphere exists within the program. Operating procedures are reasonably well defined, but a climate favorable to change exists. (14-16; 89-91)

4. The need for and importance of validation of the completed development product is recognized, but not fulfilled in a consistent fashion. (17, 92)

5. The production of instructional media is an essential part of the development process, but the quality of such produced media is not consistently high. (18, 93)

6. The program is reasonably ready and able to handle requests that may come to it, but to be totally ready at all times would be to have a surplus of capability or personnel when such demands are not being made. Program users, therefore, may have to wait for needed services. (19, 94)

7. The program is still maturing since it has probably been in existence less than three years. (8-81)

8. Faculty size is approximately 550 and the size of the student body is around 15,000. (This is not to suggest that smaller or larger institutions have any greater or less potential for success in their development activities, but that the majority of today's practitioners are from the ranks of the "medium-sized" institutions.) (82-156)

9. The level of operation of the program is uncertain. There is some concern that development not "outrank" the faculty, it being better for them to participate voluntarily than doing so of necessity. (20, 95)

10. The number of instructional development projects or units started, designed, being placed into production, and actually completed in the composite program is increasing at a controllable rate. The same is true of units being validated and entered into regular usage at the parent institution. This is only minimally true of units being adopted by or marketed to other institutions. (22-27; 97-102)

11. Few major administrative changes, such as alteration of the program's leadership, have yet taken place. This is probably due in large measure to the relative youth of the program. (48, 123)

12. A number of changes in orientation have occurred since program inception, however. These include the addition of design and validation capabilities, greater flexibility and sophistication and changes in the methods of presenting materials to students. (49, 124)

13. An advisory board exists to help the director guide the development program. [82]

14. The director has firm control over faculty members that participate in the development program, he also has control over the final selection of the media to be used in the project development. Likewise, the director has control over media production, validation of the finished project and utilization of the end product of the development effort. (34-40; 109-115)

15. The composite program has procedural steps for design, production, validation and utilization. It does

not, however, have accurate cost figures for these same items, nor does it have cost effectiveness checks. Quality control procedures do exist, however. (5)

16. The program is well known among faculty members of the parent institutions as a result of publicity originating from the program itself. The program has recieved some notice from outside of the institution as a result of its product marketing activities, which are also promoted by program personnel. [94]

17. The program director holds academic rank, is on a contractual basis, has tenure and sabbatical leave privileges--as does his second in command. [117]

18. The director's time is spent developing, consulting, teaching, researching, and administering in approximately equal amounts. [118, 119]

19. The program will need one or more Ph.D's within the next year or two but no Ed.D's. Holders of master's and bachelor's degrees will also be sought and to a lesser extent so will non-degree holders. These people will be recruited primarily from the college campus. (29-32; 81; 104-108; 156)

20. Employee incentives, both financial and non-financial, are available to program staff members as well as participating faculty. [122]

21. Additional training to up-date program personnel is not presently available. [123]

22. The bulk of the composite program's budget goes for salaries, supplies, capital equipment and travel in that order. [124]

23. Project identification and formalization, production, and utilization are equally the most costly functions performed by the program. [125]

24. The composite program is permanently housed in a central geographic location. (62, 137)

25. Major program obstacles to more effective instructional development are lack of sufficient funds and lack of qualified personnel. Lack of faculty interest and inadequate physical plant facilities also impair the efficient functioning of the composite program, but to a lesser extent. (50-55; 125; 126; 129; 130)

While these characterisitcs are not all inclusive, they do suggest the bulk of the commonalities among the programs examined.

IDP CONSTRUCTION OR REVIEW

Another stated objective of the study was to provide instructional developers with a framework which would be helpful in initiating a development program, or in the review or an existing program. Such a framework or "handbook for development" follows.

1. Examine the "Typical Program Characteristics" appearing earlier in this chapter.

2. Divide the two dozen or so characteristics offered there into (a) those that are desirable, are probably true and probably will work in the existing or projected situation; (b) those that are probably not true, or probably would not work in that same situation; and (c) those that you are not sure if they are true or not, or if they would work or not.

3. On a tentative basis incorporate the items classified in (a) above in your program.

4. From the Table of Contents identify the cross tabulations referring to those items in categories (b) and (c) above.

5. Given the size of your faculty, enter the tables (#82-156) for a more detailed breakdown of how similar institutions in the survey have handled these categories (b and c).

6. If your program is already in existence and you desire confirmation as to its compatibility with other like programs, repeat steps 3 and 4 with the "Age of Program" tables (#7-81).

7. Similarly, further assistance can be obtained from the composite organizational chart and the composite procedural schematic (Figures 59 and 60, respectively) by adopting ways in which institutions similar to your own have handled those items which appear to be consistent with your setting (Figures 1-58). This latter step necessitates establishing other characteristics of the programs included

in this study (such as size, sponsorship, academic emphasis, etc.) before they can be compared with your own. In this regard, publications such as The College Blue Book, Lovejoy's College Guide, Accredited Institutions of Higher Education, to mention a few, would prove most useful.

8. Following construction of an approximate profile of the way your program might appear--as suggested by the factual data, procedural schematics, organizational charts, and the suggested composite program--that is compatible with your own institution's characteristics, the next step is consultation using expert opinion from programs apparently comparable to your own. The names of some individuals that may prove beneficial in this respect are found in Appendix B.

9. After having utilized the resources and information cited above in structuring an instructional development program on paper, actual implementation follows.

If you are an administrator, this means appointing an instructional development director, providing him with these and whatever other parameters (budget, rate of progress, etc.) you feel appropriate, and freeing him to start the task of improving instruction at your institution.

If you are a developer, you might do well to bring the characteristics of the program resulting from this "handbook" approach to development to the attention of your administrator, lest he expect too much or too little from your development program.

10. The final step in constructing or revising a development program is to modify and adapt the program as the learners, the program personnel, the administration and the immediate problems at hand suggest. Documentation of this and all previous steps is essential to chart program progress, insure efficiency and continued administrative and faculty support.

In actual practice, establishing and/or maintaining an instructional development program is far more complex and difficult than this simplified approach might suggest.

The value of the technique is not that it provides answers in an infallible fashion, but that it can help reduce the uncertainty, the amount of "wheel spinning," and the frustration levels of both developer and administrator.

One of the greatest causes for disenchantment with instructional development is the length of time that it takes to become fully operational. Unless there is sufficient financial dedication and administrative patience at the highest levels, the undertaking is doomed from the outset. As a result of utilizing the information or techniques found in this study, hopefully this time delay can be shortened and development programs that might otherwise have been curtailed can move ahead with even more direction and firmness of purpose.

In addition to the factual data presented to this point there seem to be some important sociological and political aspects to instructional development. A few of these considerations follow.

GUIDELINES FOR INSTRUCTIONAL DEVELOPERS

To the list suggested by Haney, Lange, and Barson (1968), the following additional heuristics are suggested for the reader's consideration. These views go beyond the composite model presented earlier as they indicate conclusions based on the personal observation and experience of the writer.

Dedication to the instructional development process must be total and universal. Instructional development is a binary activity--you either have it or you do not. In order to have it, participants need to be highly motivated and willing to devote considerable time and effort to the program. If the faculty member does not at the moment have the time or interest to invest in improving his instruction, he should not become involved. Similarly, if development personnel have other interests or responsibilities, the program will suffer. Instructional development is a jealous, and at times, harsh taskmaster.

To believe that a person can better design a course because he has taken it or taught it may be true; however, to believe that a person--no matter how competent--can administer a development program simply because in the past he has administered an academic or other program is naive and to believe that the two can be handled simultaneously may be even worse than naive.

Development procedures, once established, must be followed. Although considerable latitude is possible in designing a model for development, once determined, it should be followed to the letter. If modification is necessary, it is the model that should be altered rather than its interpretation or the vigor with which it is applied. Use of the systems approach in instruction implies systematic enactment of the resulting process as well as systematic structuring initially.

Adequate funding is necessary for effective instructional development. To say that money is needed to have a successful program is certainly not unique to instructional development. What may be unique, however, is when and where the money comes from. If all funds for such activities are funneled through the development program, participating departments and faculty members sometimes fail to fully utilize the final result. If, on the other hand, it is the user's responsibility to secure funding, greater appreciation and responsibility for proper use of the end product is felt, and the development effort is generally more successful. In cases where government or foundation funding is sought, it is well for the development group to assist the requesting department or individual in formalizing the proposal. It should be realized, however, that the early working relationship is primarily to obtain funds, and that while a proposal should be as accurate as possible, work done in this regard may or may not have application to the final development product.

Instructional development must be institutionalized. Developed instruction is too vital--as well as too time consuming and costly--to be an option, used or not used at the discretion of the individual teacher. To insure that this does not happen, instructional development must become a part of the parent organization's philosophy and structure, and must be handled as matter-of-factly and forcefully as any other administrative policy.

Edicts from high on the administrative chain of command may or may not be held with any higher regard--but they are carried out and in time may even gain acceptance as the way things ought to be.

Instructional developers need a common orientation. Present day instructional developers seem to fall into two categories, those who are learning theory oriented and those with media production backgrounds. No doubt persons with either orientation can administer a development program, but difficulties seem to arise when there is a mix of these backgrounds. What is needed, and what will probably emerge as the field matures, is a common orientation, one with a vocabulary and set of skills that is consistent from program to program and within a given program. The possibility and perhaps even desirability of statewide and even nationwide certification or licensing should not be dismissed.

Summary

By way of summarizing these eight heuristics, and in fact the whole process of instructional design (albeit in an over-simplified fashion), the following formula may be helpful:

Design + Production + Evaluation = Development

Add to this the necessary feedback loops and administrative structure, and temper it with the realization that the entire process must be carried out by people with various degrees of interest, availability, understanding and skill--and at different levels in the instructional continuum--and it becomes apparent that while instructional development may not be as feasible as those who worry about cost-effectiveness would like it to be--it is nevertheless far from the fantasy that its detractors would have us believe.

While this study does not purport to be all inclusive, nor has it probed as deeply as it could in many areas, the general feeling it engenders is that instructional development holds the greatest promise yet for a way to improve instruction and promote more efficient learning in our increasingly complex and technological society--without compounding the very problem that we are trying to solve.

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APPENDIX A

INSTRUCTIONAL DEVELOPMENT SURVEY QUESTIONNAIRE

INSTRUCTIONAL DEVELOPMENT SURVEY

1. When was an instructional development program formally initiated at your institution? ____________________(a)

B-1 What was the size of the faculty at the time? ____________________(b)

What was the size of the student body? ____________________(c)

Who was the first person in charge? ____________________(d)

Who appointed him? ____________________(e)

Does "d" still have this responsibility? ____________________(f)

If not, when was a change made? ____________________(g)

2. What emphasis does the instructional development program at your institution place on the following objectives? Rank relative importance of those that apply, and specify percent of time devoted to achievement of each. A-1

	Rank	Time (%)
a. To learn more about the instructional process in general.		
b. To learn more about effective instruction in the field(s) of (specify) ________________		
c. To generally improve the quality of instruction received by our students.		
d. To produce validated instruction in the area of (specify) ____________________________		
e. Other (specify) ________________________ ____		

3. Do the instructional development efforts of your institution lead to a tangible product? __________

A-6 Will these products be available for distribution outside of your institution? __________

If yes, through what channels?

4. Characterize the instructional development program as to

A-5

	1	2	3	4	5
a. Emphasizing:	Theoretical basis for action				Finished product
b. Procedural approaches:	Evolving				Well defined
c. Having:	Restrictive procedures				Innovative atmosphere
d. Validation:	Consistently done				Infrequently attempted
e. Media produced:	Consistent high quality				Lacking production capability
f. Readiness:	Able to handle consumer needs				Still tooling up

C-1 5. Attach an organization chart showing line and staff relationships within the development program as it now exists. If there is an organizational manual describing personnel, functions, etc., please include.

C-2 6. What is the relationship of the program to the instruction as a whole? If there is an organization chart or other document that shows this, please attach a copy or otherwise indicate. Omit if covered by the previous question.

E-6 7. List the various classes (levels) of program employees on the left side of the graph and respond accordingly. Omit if covered in organizational manual.

Level	Academic Rank Held	Contract Period	Tenure Require-ments	Sabbatical Leave Privilege	Percent of Time to Outside Consulting	Percent of Time Devoted to Development	Percent of Time to Research	Percent of Time to Teaching
a. Director								
b.								
c.								
d.								
e. Intern or other trainees								
f. Consul-tants*	—	—	—	—				
	—	—	—	—				
	—	—	—	—				

*Please indicate academic background best describing individuals who frequently render consulting assistance to the instructional development program, although not considered part of the program staff.

8. Please supply the following data regarding committees and advisory boards. Omit if covered in organizational charts or manuals already attached.

C-5

	Title or Designation	Membership Composition	Purpose, Authority	Frequency of Meeting	Who Selects Membership	How Often Changed
a. Advisory Board						
b. Development Program Committees						
c. Other program elements (market research consultants, management, audit firms, outside accountants, production organizations)						
d. Instructional Development (project) Teams						

9. Does the program have: (check)

B-4

	Design	Production	Validation	Utilization
a. Procedural steps for				
b. Average cost figures for				
c. Quality control procedures for				
d. Cost-effectiveness checks for				

10. To date, how many instructional modules or units have been:

B-5

		anticipated in: one year	two years	five years
a. identified and entered into the program?				
b. designed and placed into production?				
c. completed through the program?				
d. validated?				
e. entered into regular usage at your institution?				
f. adopted by or marketed to other institutions?				

11. Please provide the following information regarding the number of people in the development program:

B-4

Employee Backgrounds	Presently	Originally	Next year	In two years	In five years
a. PhD					
b. Ed D					
c. MA/MS					
d. BA/BS					
e. Less than BA					

On the left side of each column indicate how many people report directly to the program director (i.e., work for him).

On the right side of each column indicate how many people maintain a working relationship with the program director as instructional designers, media producers, evaluation specialists, etc. (i.e. work with him).

12. How are the instructional development needs within the institution identified?

D-1,3

How is project priority determined?

13. What procedures translate these needs into instructional development projects? Please attach pertinent forms.

D-2

14. Indicate how and where the following functions are performed: (Check appropriate column unless otherwise indicated)

D-6

	Not done	Done in institution by program personnel	Done in institution outside of program	Done by agency outside of institution
a. Project selection				
b. Determination of instructional approach				
c. Media production (list each capability in appropriate column e.g.--slides, filmstrips, etc.)				
d. Validation				
e. Dissemination (1) publicity*				
(2) marketing				

*Please interpret as procedures at institution designed to inform entire faculty about instructional development program, what others are doing, etc.

15. If all developed instruction is not validated, which kinds (i.e., levels of learning or types of instruction) are?

D-7

Why these?

16. Please indicate or attach a flowchart, procedural schematic or model, showing the steps of your development process.

D-8

17. What control does the development director have over: (check)
What control should the development director have over: (circle)

C-3

	1	2	3	4	5
a. participating faculty members?					
b. selection of projects?					
c. determination of project approach?					
d. media selection?					
e. media production?					
f. validation?					
g. utilization?					
	None		Advisory		Autonomy

18. Who has the responsibility of recruiting full-time instructional development staff personnel? (check)
Program director_____, Academic dept. head_____,
Institution personnel director_____, Other (specify) ________,

E-1,2

What sources (institutions, etc.) have been most productive in this regard?

19. What employee incentives are in effect?

E-7

	Financial	Non-financial
a. Staff members		
b. Participating faculty		

20. With regard to "saw sharpening" or in-service programs intended to update and maintain the skills of staff members: (List same levels as in question #7)

E-8

Level	Does one exist?	With what curriculum?	Who is in charge?
a. Director			
b.			
c.			
d.			
e. Interns or other trainees			
f. Faculty members outside of program			

21. What significant changes in the administration and organization of the instructional development program have been made during its life span (e.g.--now a staff vs. line function, now under an academic vice-president, etc.)?

B-2

22. What significant changes in the strategy and orientation of the program have occurred since its inception (e.g.--validation no longer attempted, abbreviated procedures followed, etc.)?

23. Which of the following are major obstacles to effective instructional development at your institution? (Rank items that apply from most serious, lowest number, to least serious, highest number.)

H-2

	Rank
a. Lack of sufficient funds	
b. Lack of qualified instructional development personnel	
c. Lack of knowledge regarding the process (i.e., what to do)	
d. Lack of knowledge regarding implementation of process (i.e., how to do it)	
e. Lack of faculty interest	
f. Lack of adequate physical plant facilities	
g. Lack of administrative support	
h. Lack of production capabilities	
i. Lack of validation capability	
j. Lack of means to insure proper utilization after development (i.e., institutionalization)	
k. Other (specify) ______________________________	

24. How does the program disengage itself from a non-productive project or uninterested faculty member?

H-5

25. Does the instructional development program have a central geographic location? yes_____ no_____

G-1 Is the facility considered to be permanent or temporary? (circle)

G-2 26. Is the program's tenure at that location considered to be permanent or temporary? (circle)

27. Estimate floorspace area of program facility to nearest 100 square feet. Check other categories as they apply.

G-4

	No. of Sq. ft.	Used as it was?	Modified for program?	New construction for program?
a. Originally assigned				
b. Presently have				
c. Now need				
d. Needed in two years				
e. Needed in five years				

28. In your opinion, what attitudes toward the development program are held by: (check)

H-1

	Strongly positive	Positive	Neutral	Negative	Strongly negative
a. Institution administration					
b. Participating faculty					
c. Program staff members					
d. Interns and other trainees					
e. Consumers of developed instruction					

29. Identify major expenditures of the program by both item and function.

F-5

a. Item	Percent
Salaries	
On-campus consultant fees	
Off-campus consultant fees	
Overhead	
Capital Equipment	
Supplies	
Travel	
Other	
	100%

b. Function	Percent
Project identification and formalization	
Analysis and Design	
Production	
Utilization	
Validation	
Public Relations	
Marketing	
Other	
	100%

30. Program funding information. Please indicate dollar amount if you are able; otherwise show percent from each source.

F-1,2

	Original Amount	For What Period	Presently	For What Period	Income Level Needed In: One Year	Two Years	Five Years
a. Government							
b. Foundation							
c. Parent Institution							
d. Generated by Program							
e. Other (specify)							

F-6

31. Are monetary reserves being established? __________

If yes, for what purposes?

32. Please respond to the following:

	Strongly Agree	Agree	Uncertain or Doesn't Apply	Disagree	Strongly Disagree
a. Efficiencies exist in the program as a result of differences in orientation between varying academic backgrounds found among development personnel.					
b. An educational psychologist is better equipped to direct an instructional development program than an equally competent person with a background in instructional media.					
c. The one-man "generalist" approach to course development is better than a team or committee approach.					
d. If the team approach is not used, the instructor needs to reserve the right to accept or reject the results of the development effort.					
e. Validation is an essential part of instructional development.					
f. Production of needed instructional media is an essential part of instructional development.					
g. Instructional development consists of instructional design, media production or acquisition, utilization and validation.					
h. Reporting procedures should be such that the need and feasibility of each project is apparent at all times.					
i. The cost of development should be borne by the department or college that uses the finished product.					
j. A new physical plant facility specifically designed for the development program would do much to improve both efficiency and acceptance.					

33. Please indicate (check) the kinds of people necessary to develop a:

	a. Unit or module of instruction	b. Course of instruction	c. Department's curriculum	d. College's curriculum
Subject matter specialist				
Media production specialist				
Evaluation specialist				
Instructional designer				
Administrator (specify)				
Other (specify) ____________				

Indicate with an asterisk* the person who should be the team leader in each of the above situations.

34. How do you try to insure that instruction once developed will be used in the classroom?

E-6

35. What services would you like to see become available at the regional or national level to assist you in setting up and/or conducting an instructional development program?

H-8

THANKS for your cooperation! Please fold, staple and mail. If you have large enclosures or attachments, the return mail form below may be duplicated and affixed to a suitable envelope.

For a copy of the results of the study, please indicate:

Name ______________________ Position ______________________

Institution ______________________ Street Address ______________________

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INSTRUCTIONAL DEVELOPMENT SURVEY
281 Herald R. Clark Building
Brigham Young University
Provo, Utah 84601

Comments:

APPENDIX B

INSTRUCTIONAL DEVELOPMENT SURVEY RESPONDENTS

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APPENDIX C

SUMMARIES OF INSTRUCTIONAL DEVELOPMENT PROGRAMS

Topics to be covered in describing instructional development programs at the AECT National Convention Session on. . . "Conducting Instructional Development in Higher Education"

1. Program philosophy and goals

2. Brief history of the program

3. Organization

   a. Personnel directly involved in the program
   b. Supporting services
   c. Administrative relationships within the college or university

4. Procedures

   a. Project initiation and selection
   b. Instructional development model used
   c. Validation of instruction developed

5. Funding for the program

   a. Source and extent
   b. Distribution

6. Problems

   a. Release time vs. faculty incentives
   b. Cost effectiveness decisions
   c. Quality control
   d. Other

If you would like to share information about your higher education instructional development program, prepare 300 copies of an 8 1/2" by 11" onepage abstract on your program covering the above topics. Bring or send this material to the room announced for this session at least 15 minutes prior to its commencement. Table will be provided for the disseminating of the program summaries.

INSTRUCTIONAL RESOURCES LABORATORY

ARIZONA STATE UNIVERSITY

The Instructional Resources Laboratory(IRL) was organized in 1969 to provide instructional support and development services for the College of Education and to provide an environment where the faculty and graduate students in Educational Technology can apply principles of product development to the solution of real-time instructional problems.

The activities of the Laboratory are directed by the Educational Technology faculty with the support of graduate research/development associates and part time undergraduate helpers. The initial efforts of the IRL staff have been directed toward acquiring physical resources(equipment and materials), establishing administrative policies and procedures, training staff, and establishing pilot instructional development projects with select members of the education faculty. Audiovisual equipment distribution services, local materials production services, and the storage and distribution of commercially prepared instructional materials have been reduced to routine procedures. Instructional development activities which have been conducted on a small scale are beginning to grow as fast as we can acquire or train behaviorally oriented product developers.

The basic services and staff of the IRL are supported by the College of Education. Support for innovative activities and instructional development efforts come from a variety of federal agencies, foundations, University departments and local school programs. Support has ranged from an eight-hundred dollar grant from the Alumni Association to develop an individualized remedial mathematics program for undergraduate elementary education students, to a one hundred thousand dollar grant from the Knapp Foundation to develop curriculum for preparing professional Library Media personnel.

Because the Instructional Resources Laboratory is a growing operation in a fast growing field, acquiring capable product development personnel is a constant concern. Faculty competent to develop and apply technologies of instruction in real-time situations and graduate students with the attitude and desire to learn to do the same are always needed.

For further information concerning the Instructional Resources Laboratory or the graduate program in Educational Technology write or call:

Dr. Vernon S. Gerlach, Chairman
Department of Educational Technology
FLS/Arizona State University
Tempe, Arizona 85281
602-965-3154

Dr. Norman C. Higgins, Co-Director
Instructional Resources Laboratory
FLS/Arizona State University
Tempe, Arizona 85281
602-965-3887

INSTRUCTIONAL DEVELOPMENT PROGRAM

at

BURLINGTON COUNTY COLLEGE

1. Burlington County College is a new experimental open door comprehensive community college in Pemberton, New Jersey. We have adopted an educational philosophy which is based upon our desire to identify and use the effective and efficient teaching/learning strategies to meet our student's learning needs. We have designed the instructional program and the physical facilities of the institution to best accomodate these needs.

2. Instructional development has been recognized as a high priority item at the institution as reflected in our statement of goals "(#2 page bulletin eleven and first paragraph)" to implement this goal the institution has conducted systematic pre-service and in-service training of the faculty. The first pre-service training program was conducted by the college for its charter faculty in the summer of 1969. The second pre-service training program was partially funded by EPDA to produce a model pre-service training program which could be used by other community colleges. These materials are being revised and will be available to the public by May 1, 1971.

3. The personnel of the program consist of a part-time director, Dr. James O. Hammons, Dean of the College, and a full time assistant director, Mr. Harlan L. Douglas, Educational Development Officer. The pre-service and in-service training program is supported by the departments of the college Learning Resources Division, including, the library, audio and graphics production, and the print shop. The program is an integral part of the college administrative structure, since the director of the program is the Dean of the College.

4. The procedure followed is roughly parallel to the three phase curriculum development model attached to this document. This is a self correcting model which is aimed at producing a valid learning experience for students.

5. The program has been primarily funded from institutional resources. The EPDA grant which was awarded for the 1970 program and has been extended to the 1971 program offers considerable assistance in helping to pay new faculty to participate in pre-service activities and in, providing consultants for the in-service training program.

6. We have faced some problems in the program. Mostly they revolve around having had to use temporary facilities for the first two pre-service and in-service training programs. Another significant problem is having to work with people in the pre-service training program who are having to adjust to a new home, often in a new state. Problems encountered in the in-service program are generally questions of time. We have partially solved this problem by making much use of programed independent study materials to convey the instructional message.

For further information write:

Harlan L. Douglas
Educational Development Officer
Burlington County College
Pemberton, New Jersey 08068

INSTRUCTIONAL DEVELOPMENT AT BRIGHAM YOUNG UNIVERSITY

I. PROGRAM GOALS

The Instructional Development Program at Brigham Young University has two primary goals. First, to increase the quality of instruction at the University; and second, to increase the cost effectiveness of its instructional program.

II. BRIEF HISTORY OF THE PROGRAM

The Instructional Development Program had its beginning within the Educational Media Services Department, was shifted to Instructional Research and Development when this department was organized, and is presently a separate entity within the Division of Instructional Services. It has the task of coordinating with the faculty of the University the instructional development support activities of all departments in the division.

III. FUNCTIONAL SUPPORT

The director of the Instructional Development Program is responsible directly to the director of the Division of Instructional Services. The program is primarily supported by the six departments in this division. They are: Educational Media Services (film library, media equipment, instructional materials resources files, audio and video information retrieval systems); Electronic Media (audio and video technical operations, engineering, maintenance, installation, and recording); Broadcast Services (KBYU-TV & FM, instructional television); Motion Picture Production (motion picture and filmstrip production); Instructional Photo/Graphics Production (still photography, graphic and multimedia production); and Instructional Research and Development (research, evaluation, instructional design training, and instructional development support). In addition, the University's Testing Service, Institutional Research Department, Computer Research Center, and University Libraries also provide direct support to the program.

IV. PROCEDURES

Twice a year faculty members are given an opportunity to submit instructional development proposals. These proposals are reviewed by the Instructional Development Executive Committee within the Division of Instructional Services and then by the Instructional Development Advisory Committee, made up of faculty members. The accepted proposals are funded to include the purchase or programming and production of validated instructional materials including a student syllabus and faculty manual. In many cases, financial support is extended to released time to the faculty member directly involved in the development project.

The development model employed in the program consists of five major divisions. They are:

(1) Project initiation (proposal, review, budgeting, approval, development team organization)
(2) The analysis phase (student characteristics described, type of learning identified, terminal and enabling objectives written, terminal, intermediate and pre-entry evaluation procedures developed)
(3) Strategy phase (modes and media analyzed and selected, instructional strategy developed, budget-time estimates up-dated)
(4) Packaging phase (available instructional materials evaluated, purchased and adapted as necessary, additional instructional materials produced, instructional package assembled, preliminary tryouts conducted, necessary revisions)
(5) Validation phase (actual use validation conducted, revisions made, final report written, and instructional package put into regular use)

V. FUNDING

Initially, funds for program personnel were provided through the operational budget of the division. Special project funds are now available directly from the University for complete program support. Funding during the 1970-71 academic year is approximately $200,000.

Funds available through the program are used to provide faculty released time, purchase consultation and production services from the departments of the Division of Instructional Services as well as purchase commercially available software.

VI. PROBLEMS

Four major problems have been encountered to date:

(1) Availability of trained instructional development personnel
(2) Insufficient number of faculty members understand and appreciate systematic instructional development
(3) Facilities are limited for conducting individualized mediated instruction
(4) Insufficient funds to keep rate with faculty needs.

UNIVERSITY OF DELAWARE
DIVISION OF INSTRUCTIONAL TECHNOLOGY
EAST HALL, NEWARK, DELAWARE

March, 1971

PHILOSOPHY OF THE PROGRAM

The Division of Instructional Technology is made up of four full-time technologists who serve as faculty consultants in instructional development. Though the Division is often involved in the traditional aspects of assisting faculty members in the design of media for their courses, we are most concerned with the overriding questions surrounding instruction at the University.

As a group, the Division favors an empirically based, systematic approach to instruction, leaving open the possibilities of infusing that approach with input from many areas. For example, if research findings in the fields of psychology, sociology, or the economics of education are relevant to our task, we attempt to include these findings in our projects. Although we are open to testing theories of instruction whether or not they include incidences of media usage, we tend to concentrate upon the determination of the effectiveness and efficiency of implementing instructional media in college teaching. The Division is also interested in the application of media to research, as data-gathering devices and as a means of presenting stimuli.

HISTORY OF THE PROGRAM

The first instructional technologists were employed by the Instructional Resources Center during the 1965-66 academic year. Their major functions were those of providing liaison between the faculty and the staff of IRC. A total of five instructional technologists served between 1965 and September, 1969. In September, 1969, two doctoral level technologists were added to the staff. In January of 1970, the Division of Instructional Technology was established, and in July, 1970, two more technologists were added, each of whom hold Masters degrees. Serving with the Division is a graduate assistant with training in statistics, evaluation and research design.

ORGANIZATION

The Division has continued to be part of the University's Instructional Resources Center and reports to the director of the Center, who in turn reports to the Vice-President for Administrative Services. The Division is supported by the other areas within IRC--graphics, instructional television, film and equipment distribution--as well as additional services provided by the Library and Computer Center. The Division also has a good working relationship with the office of the Associate Provost for Instruction and maintains liaisons with the various deans and department heads of the University.

(over)

PROJECT INITIATION

Since the creation of the Division of Instructional Technology, its members have consulted with over 150 faculty, representing nearly every department of the University. Project requests come directly to the Division or to the Director of IRC. The Division also works closely with all faculty who apply for the annual Improvement of Instruction grants, whether or not they actually receive the grants. An attempt is made to evaluate--through objective and subjective analyses--as many projects as feasible.

PROBLEMS

The overriding problem continually faced by the Division is a general lack of awareness on the part of the faculty of the services we can provide. Results of a questionnaire which we recently distributed to faculty confirmed that many of them were either confused as to our function or simply not cognizant of our existence. This is undoubtedly due somewhat to the fact that the Division is barely a year old. However, it is probably also due to our physical and administrative location within the Instructional Resources Center, leading many faculty to regard us simply as "A-V people" and believing our function to be one of preparing transparencies and splicing film. We are continually trying to eradicate this image, with varying degrees of success.

The Division is also attempting to make faculty more aware of our services through the periodic distribution of newsletters and through Division representation on various academic committees. During the past two summers, ten-day faculty media workshops have been held, stressing the basic aspects of a systematic approach to instruction.

Results of the questionnaire also indicated that the most significant deterrants to engaging in instructional development by faculty were a lack of time available as well as a lack of tangible rewards for engaging in this activity. The Division has proposed that faculty be granted release time and credit similar to publications for undertaking instructional development projects, though these proposals have not as yet been adopted.

We do feel, however, that the Division of Instructional Technology has made a significant contribution toward the improvement of instruction at the University of Delaware and that our contributions will be even more far-reaching and significant in the future.

For further information about our program, please write to Quentin Headley, Division of Instructional Technology, University of Delaware, Newark, Delaware 19711.

AN ABSTRACT OF INSTRUCTIONAL DEVELOPMENT AT THE COLLEGE OF DENTISTRY, UNIVERSITY OF FLORIDA

The primary objective of the College of Dentistry is to develop a graduate who possesses a biological orientation, is sensitive to his fellow man, is skillful in all preventive, diagnostic, and therapeutic procedures, is appreciative of new knowledge through research activities and recognizes the need for continually educating himself, and, above all, is humanistic in his attitudes towards the public and the profession.

The College has had the unique opportunity of developing its programs as an integral part of the J. Hillis Miller Health Center. The curriculum concepts are new, innovative, and flexible. They reflect the creativity and professional talents of a relatively young faculty committed to educational processes which are relevant to society's needs and exciting to the student in pursuit of professional goals in that society.

There are sixteen faculty members involved during 1970-71 in planning and developing the dental curriculum. There is an Office of Dental Education which gives direction and support in the curriculum development activities. The Office of Dental Education is made up of a dentist/experimental psychologist and an instructional systems designer. In terms of media support, there is a medical illustrator and a dentist who is specializing in audio-visual productions.

In September, 1969, there were nine faculty members involved in conceptualizing a curriculum plan. During 1969 and 1970, behavioral objectives and educational strategies have been clearly identified. The individualization of learning experiences to allow the students to progress according to their own rate is a significant aspect of this academic endeavor. The curriculum is based on a systems model and will have evaluation procedures based on a criterion-referenced assessment system.

The model for instructional development involves faculty interacting with instructional systems designers and learning measurement specialists. The planning teams will develop modules that contain entry behavior tests, computer-managed diagnosis system, behavioral objectives, instructional resources, and criterion evaluation strategies appropriate to the tasks.

Funding for the College of Dentistry and the curriculum development activities has been provided solely through State resources. The Health Center construction program will include modern permanent facilities for the College. The present estimate for beginning construction is mid-summer 1971. The first dental class is planned to be admitted in the Fall of 1972.

This overview was prepared for distribution at the Association of Educational Communications and Technology meeting held in Philadelphia, March 21 - 26. Further communications regarding curriculum development activities can be directed to:

Dr. Arthur D. King
Office of Dental Education
MSB Box 196
University of Florida
Gainesville, FL 32601

DIVISION OF INSTRUCTIONAL RESEARCH AND SERVICE

Florida State University

PURPOSE

The purpose of the Division is to assist the qualitative development of the University's instructional program through informal instruction of faculty members, maintenance of instructional support facilities, and the execution of research programs on the teaching-learning process.

HISTORY

DIRS was formally established on July 1, 1968. Factors leading to its formation included the belief that the combination of already existing units into a single administrative organization would provide operating economics, comprehensive and coordinated attacks on instructional problems, and one-stop assistance for faculty members. In the fall of 1970, DIRS was reorganized internally to further enhance its functioning. The structural changes involved creating three associate director's positions with clearly delineated areas of responsibility. These included: (1) Instructional Development and Service; (2) Instructional Research and Special Studies; and (3) Administration and Personnel.

ORGANIZATION

The Division consists of a central office and six sections. These sections include: (1) Instructional Development Center; (2) Media Center; (3) Office of Evaluation Services; (4) Instructional Research and Special Studies; (5) Computer Assisted Instruction Center; (6) Center for Research in College Instruction of Science and Mathematics (CRICISAM)

DIRS programs are implemented by 67 full-time and 77 part-time personnel. Full-time personnel are distributed as follows: 16 faculty and professional level personnel; 3 administrative staff; 17 secretary-clerks; 2 librarians; 30 technical personnel. The 77 part-time staff are graduate and undergraduate student assistants.

RELATIONS WITHIN THE UNIVERSITY

DIRS is an independent division of the University. It reports to the Vice President for Academic Affairs and its Director serves on the Council of Deans. Faculty research associates in the Division hold joint appointments in departments related to their academic specialties. The University Council for Instruction serves as an advisory group to DIRS with respect to policy and periodic review of the Division's operation.

SERVICES

Central Office

The Central Office of DIRS coordinates the operating units. It serves as a clearing house and publishes Notes From DIRS, Faculty Exchange, and project reports. These publications contain information about developments and innovations in instructional procedures, technology, and noteworthy on-campus instructional development projects.

COUNCIL FOR INSTRUCTION GRANT PROGRAM

Instructional development activities are greatly facilitated by the Council for Instruction Grant Program. The Council consists of twelve members of the teaching faculty appointed by the President for three-year terms. The Council develops and conducts projects and programs that have as their goal the improvement of undergraduate and graduate instruction. Each year the Council invites applications for instructional improvement grants from members of the teaching faculty. Awardees are employed full-time during the summer quarter for course development activities. DIRS staff members assist the awardees. Fifteen awards are usually given each year.

WHO IS ELIGIBLE FOR ASSISTANCE?

Faculty members may call any member of DIRS to discuss instructional problems and needs, proposed development projects, etc. The DIRS faculty member who is called can arrange for full participation by all DIRS units whenever broad service is needed. Although DIRS personnel participate in defining objectives, arranging course content, developing evaluation procedures, etc., final responsibility and authority rests with the faculty member.

Most services such as short-term consultation, providing classroom films and projection equipment, test scoring, and photographic production are provided on a first-come first-served basis. However, DIRS has only a limited capacity for undertaking major research or instructional development projects. The scheduling of major projects generally is in accord with the following guidelines. Preference is given to lower division undergraduate instruction; to departments which produce the greatest number of quarter hours at that level; and to projects which have the greatest prospect of serving as models or demonstrations of effective instructional practice.

FUNDING

Financial support for all but two of the sections comes from general university funds budgeted on an annual basis. Insofar as possible the research, development, and service activities of these units are offered without charge to faculty members who solicit help on instructional problems. When charges must be made, they are for costs of materials which may be involved. Salaries and overhead costs are borne by the University. On the other hand, faculty holding training grants and contracts related to instructional programs are expected to pay for virtually all services which they request from these DIRS units. The CAI Center and CRICISAM are supported mainly by funds provided by external grants and contracts for research, development and training.

Instructional Development Center

The Instructional Development Center has two program emphases, instructional development and research. The goal of the development program is to improve the effectiveness of instruction by assisting faculty members to write objectives, to design and produce learning materials which can be used for group-based or individualized instruction, and to assist departments in revising their objectives and course offerings. The research emphasis focuses on formative and summative evaluation of instructional projects. An important facet of the research is analysis of costs and benefits to determine the feasibility of wide-spread implementation of prototype models.

The Center functions as a dissemination agency. It prepares and distributes copies of the Instructional Development Handbook and locally produced tape-slide presentations on instructional development. It maintains a lending library of instructional materials on writing objectives, test item writing, instructional design, educational simulation, college teaching, and research monographs on the impact of college on student development. The Center also presents University-wide symposia on topics like the training and supervision of teaching assistants, innovations in college level instruction, and the individualization of learning in higher education.

Media Center

The Media Center supports the academic program of the University by providing audiovisual equipment, projectionists, an extensive library of 16mm educational films, photographic and graphic production services, audio-tape duplication, equipment maintenance, instructional television, and assistance in the selection and use of media. Audiovisual equipment and educational films are available without charge to the faculty. Preparation and production of instructional materials is supported by a staff of graphic artists and photographic technicians. Charges for these services are based on cost of the materials used. The Center maintains a small Learning Resources Center which is housed in the main library. It contains 40 multimedia carrels which are used for testing experimental versions of instructional materials and for distributing supplementary individualized materials for a number of courses. Courses in which the bulk of instruction is individualized are usually located in single-purpose satellite facilities.

The Media Center is responsible for instructional television, including the production and distribution of classroom lectures and supplementary materials. Portable videotape recorder units are available to faculty for recording class activities. There is no charge for the use of the equipment or practice tapes, but departments are asked to purchase videotapes which they desire to retain.

Office of Evaluation Services

The primary function of the Office of Evaluation Services is to assist faculty members in evaluating student learning. This is most often accomplished through individual conferences, but the staff also occasionally holds workshops for faculty members to instruct them about new techniques of appraisal. Answer sheets for multiple-choice tests are machine scored at no cost to faculty members and departments. IBM answer sheets and various types of data analysis are also available at no cost. These include: (1) item analysis of test results including a summary of item responses, item difficulty and discrimination indices, and a listing of scores by student ID number; (2) questionnaire analysis program with cross tabulation capability; (3) an item weighting, scoring and summary program for attitude scale items.

The Office administers admission tests for entry into college or graduate school, supervises the administration of foreign language tests, orientation tests, etc., and serves as a regional testing center for national testing agencies. The office also conducts research on measurement problems associated with instruction, and it assists faculty members with the development of aptitude, admission, and placement tests.

Instructional Research and Special Studies

The Instructional Research and Special Studies unit conducts studies of the University's instructional program for the central administration. This includes studies on utilization of instructional resources, costs of differing instructional models, the potential benefits of allocating resources in particular ways, the total educative impact of the University on students, etc. The unit also conducts evaluations of academic departments upon their request. The evaluations analyze all aspects of departmental operation and lead to the development of long range plans relating to departmental personnel, programs, and budget.

Computer Assisted Instruction Center

The CAI Center is a research and development laboratory dedicated to investigating how computers can support instruction. Particular studies have included the following: the role of problem-solving and review instruction as it affects test performance in introductory collegiate courses in chemistry and physics; providing complete tutorial instruction in an autonomous introductory collegiate physics course; computer managed and programmed instruction in social welfare content; teaching reading and mathematics to disadvantaged elementary school children via remote terminals; computer testing of Intermediate Science Curriculum Study (ISCS) materials; sequential testing of achievement in a course in introductory psychology; trait and state anxiety effects on learning. These studies were supported by the National Science Foundation, National Institute of Mental Health, Office of Naval Research, agencies of the Department of Health, Education, and Welfare, and the Department of Labor.

FSU faculty members are encouraged to undertake instructional projects with the Center, but the Center cannot provide computer support on a no-cost basis in the amount which would be needed for routine instruction of students.

CRICISAM

The Center for Research in College Instruction of Science and Mathematics began operation on the campus of Florida State University in the spring of 1966. Representing the common interest in undergraduate instruction of seventeen universities and colleges in the Southeastern United States, CRICISAM's objectives are to provide a center for the investigation, development and dissemination of new materials and techniques of instruction in the various fields of science and mathematics. A computer-based calculus course, developed under an NSF grant, is being tested in about 50 universities and colleges. A grant from the Sloan Foundation has financed exploratory studies in a number of areas, mostly related to computer applications in education. A number of faculty members from different institutions have spent periods ranging from a few days to a few months as visitors, working on projects of their own, or studying some of the ongoing work.

William Rainey Harper College
Algonquin and Roselle Roads • Palatine, Illinois 60067 • (312) 359-4200

INSTRUCTIONAL DEVELOPMENT OVERVIEW

1. Philosophy and Goals

The goal of the I.D. Program at Harper College is to improve the learning process for the students through a structured in-service project for selected teaching faculty which will provide a framework to develop strategies, objectives, materials, and evaluation for improving student's achievement within course units.

2. History

The I.D. Program began in the summer of 1968 with 12 faculty members, half-time in I.D. work, six consultants were brought in over the six week period. The outcome was the design and tryout of instructional objectives and a favorable faculty attitude towards this approach. For more information see Update #1, *A Report of the Beginning Efforts in Instructional Development at Wm. Rainey Harper College*, ERIC #ED 038112, 1970. In 1969, the college moved to its new facilities.

In the fall of 1970, a second effort was begun with 14 faculty, using staff from the Teaching Research Division, Oregon State System of Higher Education, Monmouth, Oregon (Dr. Urbach, Project Director) as an outside resource. The group is presently in the design-development stage with full implementation to come late this spring and next fall. They are operating within a general framework or I.D. model on their unit projects in order to try out the model.

3. Organization

a - Dr. Voegel, Dean, LRC; I.D. Coordinator.
b - Counseling, Testing Center, LRC, Computer Center.
c - I.D. project is run from Dr. Schauer's office, Vice-President, Academic Affairs.

4. Procedures

a - Participants choosen by joint administrative-faculty committee. Projects were defined as two units of study, participants chose their own project.
b - (See History above)
c - (See History above)

5. Funding

Internal funds approved by Board of Trustees.

6. Problems

a - Faculty has three hours release time in spring semester.
b - Cost effectiveness - part of the evaluation stage.
c - Quality Control - established through testing and LRC services in cooperation with Teaching Research Division, Oregon.
d - Other - I.D. "teams" for each participant is a concern. Faculty time and effort is the main problem.

CENTER FOR CURRICULUM STUDIES

(University of Minnesota)

I. Personnel: Present personnel include four professional staff members and two secretaries. Besides the Director and the Assistant Director who carry general responsibility for the Center programs, there is an Associate Director for pre-college educational development, and a Writer-Editor who is responsible for publication of a newsletter and other Center publications.

II. Organization: The Center is responsible, administratively, to an Administrative Committee composed of the deans of all the colleges with responsibility for undergraduate and graduate (but not post-baccalaureate professional) instruction and is chaired by the Vice-President for Academic Administration or his designate. The budget of the Center is developed by the Director through the Chairman of the Administrative Committee and is submitted to the University Administration as a part of the budget of the College of Education.

The Center operates under the guidance of two advisory committes:

1. The all-University Council on Liberal Education (a representative faculty-student committee with the responsibility for the general or liberal education component of all University bachelor's degrees) serves as advisory committee to the Center for undergraduate educational development.

2. The Advisory Committee for Pre-College Educational Development advises the Center on programs joining school and university personnel for the improvement of school education.

III. Financing: All Center staff salaries and basic operating funds are provided as part of the regular (i.e., recurring) budget of the University. Non-recurring University funds and private foundation support is used to support short-term projects and to accelerate the rate of development of long-term projects.

IV. Facilities: The facilities of the Center consist simply of a suite of administrative offices. The work supported through the Center goes on in the offices, classrooms, laboratories, studios and shops of the University.

V. Faculty Involvement: The essential purpose of the Center is to stimulate, encourage and support faculty in their efforts to improve the quality of education. Consequently all Center activities, by definition, involve faculty. In many cases the development effort involves direct student contributions. The staff of University services in support of the educational program (Audio-Visual Resources, the University Computing Services, the Department of Radio and Television) and the several research units often are an integral part of a development project.

VI. Program: The Center's program is built around a Small Grants Program (descriptive brochure available) through which faculty members or faculty-student groups can obtain funds in support of a proposed educational development task for the improvement of undergraduate education. Grants are made on the merit of the proposal and highest priority is given to projects focused on improving general or liberal education. Funds may be used for whatever purpose is required by the task--salaries, equipment, services, etc. Aproximately 50 projects are supported annually at an average cost of about $1,300.

A second program, presently in the pilot stage, provides support for joint efforts between University and school faculties to improve elementary and secondary school education.

Other discretionary funds of the Center are applied to faculty or faculty-student efforts to improve education but which cannot be categorized as pre-college or undergraduate. For example, development efforts built on cooperative programs between University faculty and colleagues in State junior colleges or State four-year colleges have been supported by the Center.

Information regarding educational development efforts in the University is disseminated through two mechanisms: the Center publishes a newsletter, Comment; the Center organizes, annually, a University Seminar on Educational Development to provide a forum for new ideas and accomplishments in education.

VII. Conception of Center's Purpose: The Center for Curriculum Studies, as an administrative office of the University of Minnesota, is charged with the responsibility to stimulate, facilitate, coordinate, and support faculty efforts to improve the processes, methods, and technologies of education, and to encourage University leadership in educational development among the educational institutions in the State of Minnesota.

James H. Werntz, Jr.
Director, Center for
Curriculum Studies
317 Walter Library
University of Minnesota
Minneapolis, Minnesota

UNIVERSITY OF MISSOURI-COLUMBIA SCHOOL OF MEDICINE
INSTRUCTIONAL DEVELOPMENT PROGRAM

The philosophy of this program is mainly that of major emphasis on the learner as the focal point, on the delineation of objectives he should achieve, and on self-instruction. Consistent with this philosophy is the emphasis on improving instruction through application of appropriate instructional technology. The major goal is the development of a more effective learning environment for medical and health education.

This program began with a series of faculty forums in which faculty were prepared for the implementation of instructional improvement. In 1967, an instructional development specialist was brought into the system as Assistant to the Dean. During the succeeding year funding was generated and assembling of staff was begun. As of February 1, 1971, staffing was completed for the original design.

The program is organized under the title, Educational Resources Group. As the word group implies, persons may enter or leave the program as the situation warrants. The Director is also Assistant to the Dean. Included in this organization are four sections: Curriculum and Evaluation, Educational Research and Development, Medical Educational Services (TV, Illustration, Motion Pictures and Photography), and Multidisciplinary Laboratories. An organization chart is shown on the back of this page. Professional members of the research and development staff hold academic appointments in the College of Education. Several of the staff hold academic appointments in the School of Medicine.

Faculty members initiate projects in consultation with the research and development or evaluation staff. All instructional materials projects must be modular and of continuing potential for use. Learning materials are validated by both peer review and field trials. The instructional modalities in current use include tape-slide presentations, CAI programs, video tapes, motion pictures, compressed-speech audio tapes, and graphic and printed materials. The program is funded from both general operating and grant dollars. General operating funds are allotted for salaries and wages and for equipment and supplies. Grant funds from the NIH Special Project Section support both categories of expenditures and are handled through the Research and Development Section and the Director. Current funding is in excess of $428,000 and includes $310,000 for salaries and wages.

The only real problem is the limitation that available space puts on the expansion of personnel. However, the space limitation has set quite realistic limits on the total research and development staff as further expansion of permanent professional staff could prove questionable from a realistic view of budget and other resources. Although the staff has thus far been able to maintain a totally responsive posture, it is evident that increasing faculty participation will require careful programming of deadlines and staff time.

Merlyn C. Herrick, Ed.D.
Director, Educational Resources Group

NORTHEASTERN UNIVERSITY
Office of Educational Resources (OER)
Boston, Massachusetts

"Interact With Psychology"

Now that we give much more credence to the value of individualizing instruction, it is easy to see why many mass lectures can result in a travesty on learning. An introductory course in psychology presented to 1000-1200 students meeting in the auditorium was singled out for an alternative and more effective approach. Students regarded this course as a prime example of the worst that education can offer. Course performance was literally distributed according to chance.

The Office of Educational Resources, an instructional support organization reporting directly to the Dean and Vice President of University Administration and composed of analysis and design specialists, media and production specialists, and audiovisual technicians, in collaboration with a professor of psychology planned and developed a total instructional system which included:

1) the presentation of videotaped lectures to groups of 60 to 80 students;
2) an integrated text providing preparation units, interactive material to be used during the lecture, review units, and advance organizers for use with assigned readings and films;
3) small group sessions conducted by teaching assistants;
4) instructor conferences;
5) a weekly progress quiz with immediate diagnostic feedback;
6) remedial references keyed to progress quiz items;
7) telephone answering service and "quick note" feedback mechanisms;
8) lecture reviews;
9) a weekly film; and
10) flexible scheduling.

Validation and revision will be based on the correlation of objective-keyed items on progress quizzes, the mid-term and final exam, as well as on the results of two attitude questionnaires, the feedback mechanisms and interview samples.

The program was funded by OER, including a cash subsidy for the faculty member's release time and laboratory personnel support. A separate contract provides for royalties paid to the psychology professor when the program is either leased for outside use or again presented at the University.

Development of this course exerted tremendous pressures on the OER staff and resources. Cost effectiveness data have not been analyzed as yet. A number of organizational problems were seen clearly for the first time, including the difficulties of getting design and media people to work together, the need to reconcile behavioral and communication approaches, keeping subject matter decisions separate from design decisions, working against unreasonable time constraints and holding worried administrators at bay.

SUMMARY DESCRIPTION

OFFICE OF EDUCATIONAL DEVELOPMENT

DeLayne R. Hudspeth, Director
The Ohio State University, College of Pharmacy,
500 W. 12th Avenue, Columbus, Ohio 43210 (614) 422-0540

The overall goal of the Office of Educational Development is to implement a system of instructional development in the College of Pharmacy that will result in a significantly improved program of professional education for pharmacy students which could serve as a model for other schools. This activity will focus on the planning, development, implementation and evaluation of educational change.

Description of Activities:

A balanced program of educational development involves a diversity of activities, each of which contributes to the success of the entire process. These activities include:

1. Curriculum and program development

   The major thrust of this activity is the development of a significantly improved, multi-track professional curriculum. The Office of Educational Development serves the faculty largely as technicians in terms of providing format, helping in curriculum analysis, etc.

2. Instructional development and support.

   Although curriculum development is the underpinning of this project, newly conceptualized programs cannot be developed and implemented optimally without attention to the specifics of instructional techniques and technology. Thus, the Office of Educational Development provides the support system needed to plan, develop and test appropriate instructional procedures. It includes the following:

   A. Working with faculty to improve teaching practices, developing mediated teaching materials and modules of self-instruction.

   B. Experimenting with innovative materials and approaches such as simulation materials for clinical courses and computer-assisted independent study. Where appropriate, special instructional materials and approaches are developed for the exceptional student (both for remedial and acceleration purposes).

3. Educational research and evaluation.

   Educational development requires data input to facilitate policy-making and decision-making in all areas and evaluative feedback for use in program modification.

4. Recruitment.

   Traditional and innovative recruitment programs are being developed for identifying and motivating potential students. This activity takes on increasing meaning as a multi-track curriculum is developed which requires and allows for differing abilities and interests among students.

PEPPERDINE UNIVERSITY
Division of Continuing Education
Independent Study Program

8035 South Vermont Avenue
Los Angeles, Calif., 90044

1. Pepperdine's Independent Study Program is premised on the concept that education is a continual and life long undertaking. Its goals are to provide:
   - a. courses for degree seeking students,
   - b. distinctive career oriented courses to fill specific needs for individuals and for society,
   - c. courses to assist students to prepare for specific examinations and certificates.

2. Independent Study Program began with 2 courses in January 1970. In March 1971 it had enrolled 407 students in 11 courses and has 14 new courses in production.

3. Organization
   - a. Under the Director of Continuing Education, an Independent Study Program Coordinator is responsible for production and administration of the courses. Other personnel are two program writers, one secretary and one typist clerk.
   - b. Supporting services are two script writers, two professional voices for taping, two studios, and at least one subject matter specialist for each course.
   - c. The Coordinator of Independent Study Program reports to the Director of Continuing Education, who reports to the Administrative Vice President.

4. Procedures
   - a. Projects are chosen as a result of the demand from the public and of the resources available.
   - b. The model used is the LeMot Instructional Package.
   - c. The LeMot package has been validated in Independent Study since May 1970.

5. Funding
   Original funding came from a small percentage of proceeds from the Continuing Education Division income. Present course development is financed from tuition proceeds of Independent Study courses from January 1970 to March 1971. No capital advance has been made to the Division of Continuing Education to finance this new program.

6. Problems
   - a. Four hours of electronic tape, per course, must be of the highest quality academically, technically, and in interest and motivation. This demands quality personnel and equipment and is an expensive necessity.
   - b. Faculty interest and cooperation is essential. Financial incentive for extra work is necessary. Faculty must also be convinced of the academic standards of this type of study.

SAN JOSE STATE COLLEGE

Audio-Visual Services — Ron J. McBeath, Director

Instructional Development Program

I. Program Philosophy and Goals

To facilitate and give direction to educational development by:

(1) Coordinating and extending present resources available for instruction.

(2) Implementing a comprehensive and systematic approach toward the development and evaluation of courses and parts of courses.

II. Brief History of the Program

Formally introduced to the College in proposal form by Ron J. McBeath and Jerrold E. Kemp on May 13, 1970, but only minimally funded. At present two audio tutorial learning labs for 200 students operating with complete courses and many smaller projects developing through the Electronic Learning Center, I T V and Production Services of the Center.

III. Organization

A. Personnel involved: Director, Coordinators and staff in A-V Services.

B. Supporting services: Audiovisual; Library; Testing; Institutional Research; Computer Services.

C. Administrative relationships: Academic Planning and Educational Services under Academic Vice President.

IV. Procedures

A. Project initiation: Faculty origination; before development proceeds, the level of readiness is assessed so that success can be more assured.

B. Instructional Models: Combination of McBeath's (AVCR Spring-1969) and Kemp's (Instructional Design. Fearon Press, 1971).

C. Validation: The general components of our systems approach - objectives, strategies and evaluation - are progressively developed and assessed in relation to each other.

V. Funding

Funding is limited at present and allocated from Audio-Visual Services budget. Some small grants are available through Graduate Studies Research program.

Comment:

Whatever success we are having with instructional design and development is determined, to a very large extent, by the excellent support we have from our technical, production and utilization service personnel in Audio-Visual Services.

For further information contact:

Dr. Ron J. McBeath
Director, Audio-Visual Services
San Jose State College
San Jose, California 95114

Conducting Instructional Development in Higher Education

State University of New York
Norbert H. Nathanson

History

In the past 11 years three stages of development relating to the search for new ways to increase the quality of instruction, extend the scope of instructional services, and decrease the cost of instruction are evident. In 1960 the University began to plan campus Lecture Hall Communication Centers for the use of media in instruction and the development of new instructional models. In 1965 it established an Office of Educational Communications at Central Administration level to develop a television network interconnecting the educational TV stations in New York State and to establish a college credit and self-study program (University of the Air). In 1966 the Office of Educational Communications began to coordinate campus programs and changed its emphasis from technical and logistical operations to direct exploration and research into the instructional process. With the advent of the new Chancellor in fall 1970, a new Office of Educational Development, under a University Dean for Educational Development within the Office of Vice Chancellor for Academic Programs, was created. This office provides greater visibility for the development function, plus a broader, more effective development program.

The conditions which impinge upon higher education include rapidly rising enrollments, depletion of the social dollar, student discontent, and the need for relevant, effective services to the community. In spite of these problems, the University must strive to maintain and improve the quality of instruction, reduce the unit cost of instruction, make University services more relevant, and improve University services to the community. Experience has indicated that prerequisites for a successful development program are an administrative agency empowered to act; sufficient resources, and capability (proven methods, skills and processes.) Much of past development effort has been directed at attaining the prerequisites.

Instructional Development Program

The general purpose of the program has been to initiate change in instruction through developing prototype instructional applications of communications technology--models which can be generalized to the solution of diverse problems at many campuses. The program provides partial and competitive funding to promote faculty and staff involvement and to provide out-of-pocket funds for materials development. The models created in the development process seek to demonstrate that technology improves learning, solves logistical problems, and reduces the cost of instruction.

The program has been operated at three levels--local, multi-campus, and University-wide. At the local level, the program strives to increase capability by funding local campus projects. The multi-campus program coordinates the commonalities which emerge from individual campus development projects and brings campuses together to satisfy mutual needs. The University-wide level stresses the development not only of systems, materials and equipment, but also prototype instructional applications of communications technology to meet University-wide needs.

Instructional Development in Higher Education
State University of New York at Buffalo
Dept. of Curr. Dev. and Instructional Media and Operative Dentistry

The training of dentists in operative techniques lends itself well to the systematic design of instruction. Objectives of a program of this nature exhibit a clear, concise pattern which enhance the development of instruction based on principles of instructional systems procedures.

Conceived in 1967, this project has attempted to improve the quality of the existing courses within the Operative Dentistry Department. The project's impetus has been to identify, support development, and facilitate instructional innovation within the framework of Operative courses. The essence of this work is development, resulting in better learning. The task area is instruction within the Department.

To these several ends the departments concerned have been engaged in the following practices:

1. Analysis and synthesis of an instructional system in Operative Dentistry at the sophomore and junior levels in order to:
   a. provide an instrument through which present practices in operative courses may be examined and evaluated;
   b. arrive at an effective and efficient learning environment;
   c. provide more individualized instruction;
   d. provide a means of critically evaluating instruction;
   e. develop a model which may be generalized to other facets of dental education -- all of which may lead directly or indirectly to,
   f. carefully molded student attitudes and skills consistent with the dental profession.

The system paradigm that has been adopted for initiatory purposes is that of Robert Smith's developed for Humrro. With adaptation to circumstances inherent in the department, this model has served as the basis for active planning of the various stages of development.

At a level more descriptive of actual duties and use of manpower the departments have:

1. Engaged themselves in the process of identifying department goals within the various levels that objectives exist;
2. Arranging and sequencing of these goals to identify optimal arrangement in terms of student achievement and departmental efficiency;
3. Identifying existing instructional materials to augment the instructional procedure;
4. Develop new media where existing media of instruction is either non-existent or short of the criteria of the department; and,
5. Develop and implement more effective means of evaluation, the purposes of which shall be developed to assess instructional success and for the student to be aware of his needs.

Funds for this program are being derived from the State of New York and the Public Health Service.

Principal Investigators:

T. A. Razik
L. J. Elsie

INSTRUCTIONAL RESOURCES CENTER, STATE UNIVERSITY COLLEGE, FREDONIA, N.

1. Philosophy and Goals: To assist in the improvement of the quality efficiency, and effectiveness of instruction and to generate proje designed to meet these objectives. General emphasis on individualization and independent study.

2. History: Established in 1969 the Center has had a major impact on a selected group of courses identified for revision. During th period projects have been conducted in courses ranging from Biolog and Composition of Music for the non-music major. A 55 station Independent Learning Laboratory has had a major impact on the acad program with over 2500 student sign-ins, representing over 45 cour in a single month.

3. Organization:
   a. Personnel: Staff includes specialists in development, utilization, graphics, photography, audio production and equipment design, maintenance and repair.

   b. Supporting Services: Computer Center, assistance from Department of Psychology in addition to complete production and duplication capabilities (graphics, film, TV, audio).

   c. Administrative relationship: Director reports to Vice-Preside for Academic Affairs.

4. Procedures:
   a. Project initiation and selection: By Director in cooperation with academic Deans and Chairmen.

   b. Development Model Used: Systems design developed by R. M. Dia

   c. Validation of Instruction: All projects evaluated for instructional achievement (based on pre-stated objectives), student attitude toward subject, student attitude toward approach. Where possible instrument design and evaluation conducted by specialists in testing and measurement.

5. Funding: Basic support from institution with some development funding from Central Office, State University and USOE. Budget in excess of $150,000.

5. Problems: While emphasis on quality of instruction is growing, major need is for additional support for faculty release time and summer employment.

March 9, 1971

LIFE-INTERNSHIP IN TEACHING AT THE UNIVERSITY OF UTAH SALT LAKE CITY

1. Program philosophy and goals: The Pilot Experimental Program in Teacher Education is focused on changing both the school program and the teacher education operation simultaneously. The program is based on the Life-Internship Model of instruction developed by Dr. Asahel D. Woodruff.

   The first change is a shift in the learner's attention from a verbal game with academic behaviors to the activities or processes normally involved in adjustive behavior throughout one's life. Such adjustive behaviors, put in the form of projects, provide vehicles that get the students into action so that life-oriented learning can occur. The second shift consists of putting the traditional verbal academic content back into the concrete form in which it exists in the environment so that it can be known through the senses.

   Given this two-fold shift, the learner (whether at the elementary, secondary, or teacher education level) is enabled to learn content for the purpose of accomplishing a project leading to an outcome *which he wants* rather than simply to learn content for its own sake.

2. Brief history of the program: The Life-Internship Model was synthesized in its initial form by Dr. Woodruff during the period 1967 to 1969 as a result of his conducting National Research Training Institutes sponsored by the National Art Education Association and the Music Educators National Conference. Development of the Life-Internship Model and supporting materials has proceeded to the present time through the Pilot Experimental Program in Teacher Education (initiated in 1969), and the SPURS program (initiated in 1969 by the Western States Small Schools Project).

3. Organization:

   a. Personnel: The project is being directed by Dr. Asahel D. Woodruff, who is working with Dr. Philip G. Kapfer and Dr. Jon K. Davis in the materials development aspects of the program. Dr. Walter E. McPhie is the administrative liaison with the University, the Salt Lake City School District, and the cooperating schools. Graduate students Jan Dickson and Roger Croft are assisting clinical work of the interns.

   b. Supporting relationships: The Salt Lake City Schools and the Graduate School of Education of the University of Utah have cooperated in the project from its inception. In addition, permission was obtained from the Teacher Certification Section of the Utah State Board of Education to grant course credit to teacher trainees for the work done in the program, all of which is done within the two-quarter internship without formal courses on campus.

4. Procedures:

   a. Project initiation and selection of trainees: A one-week workshop was conducted for potential cooperating teachers prior to the first group of twelve trainees entering the program. Trainees were selected on the basis of interest in the program, academic major nearly complete, and acceptance by the Graduate School of Education for entrance into the undergraduate teacher certification program.

   b. Instructional development model used: The Life-Internship Model is designed to duplicate in school the adjustive behaviors that constitute a person's normal daily activities. People freely engage in two kinds of activities and interactions in life: (1) they explore things out of curiosity, and (2) they pursue in a purposeful way a series of specific goals to satisfy their needs.

      The Life-Internship Program staff has built its instructional devices around these two in-life acts. At the same time, the staff is assisting the teacher trainees in building curricular materials for their students in the Salt Lake City schools that reflect these two types of activities. In contrast to the random nature of daily life, however, such activities in the Life-Internship Model are calculated to make the learning more behavioral, reality-centered, individualized, self-directed, and continuous in its development. Four principal curricular vehicles are used in Life-Internship learning--(1) Ventures, (2) Small-Increment Learning Units, (3) Decision-Making Projects, and (4) Decision-Execution Projects.

A *Venture* is a direct perceptual interaction with a phenomenon that is new to the learner. Ventures are undertaken just for the sake of getting acquainted with new phenomena. Such phenomena might include "urban sprawl," "politics," "a camera," "optimism," or any one of countless other objects, facts, and events in the environment. In addition to opening up new areas to learners, Ventures can also lead into the other three curricular vehicles.

A *Unit* is a focused and purposive interaction with a phenomenon to become behaviorally familiar with its properties, so that the learner can proceed with a project in which the phenomenon is involved. Phenomena appropriate for unit development might include "writing a headline," "social effects of drug use," "getting elected to public office," and "sewing in a lapped zipper." Units can also, of course, be studied independently if the learner chooses to do so.

Both *Decision-Making Projects* and *Decision-Execution Projects* are planned efforts by the learner to satisfy some need he recognizes by producing or obtaining something he wants, or by resolving an issue that concerns him. Projects are not learning acts in themselves except as they utilize both Ventures and Units. Through a cycling relationship between Projects, Units, and Ventures, learning becomes a way of succeeding in one's daily activities.

c. Validation of instruction developed: The current evaluation design for the program will assess achievement of objectives in the following three categories: (1) materials to be produced, (2) behavioral competencies to be developed in trainees, and (3) reactions expected from students in the project classes in the public schools.

5. Funding:

a. Source and extent: The project has been funded for two years by the Utah State Board of Education through the Office of Research and Innovation, and by the University of Utah through released faculty time. The budgets have been $18,380.00 (1969-1970) and $48,545.00 (1970-1971).

b. Distribution of funding: Ninety percent is allotted to professional salaries, 5% to duplication supplies, instructional materials, and secretarial assistance, and 5% to cooperating teachers.

6. Problems:

a. The shift from a subject-matter-mastery posture to a behavior-oriented posture has been difficult and slow for everyone because of tradition and years of familiarity with the subject matter approach. It has proved to be possible, however, when adequate transitional tactics are developed.

b. Materials which vividly portray human social behavior in the many phases of social life have been found to be scarce. Finding or producing such materials turns out to be a critical task.

c. The Life-Internship Model runs counter to traditional administrative practices in several ways. An effective way of involving administrators and eliciting their help is needed in the following areas:

(1) clearing the way for altered roles of teachers and students during class periods, and accepting students as legitimate inquirers into both the community at large and the school as their learning theater;

(2) easing the transition from a classroom-contained program to a major use of libraries, resource centers, and other facilities in a school; and

(3) broadening the school setting to include the community in an active partnership, with students going frequently to the community and citizens coming frequently into classes.

Kapfer/Woodruff
March 1971

UTAH STATE UNIVERSITY
MERRILL LIBRARY AND LEARNING RESOURCES PROGRAM
LOGAN, UTAH 84321

Materials Acquisition
Materials Distribution
Media Production
Instructional Improvement

Instructional Improvement at Utah State University is receiving new attention. A Division of a newly created Learning Resources Program was established July 1, 1970. Its activities this year have been modest while those involved concentrate on planning.

1) The philosophy that is emerging includes the following: a) The Division will attempt to facilitate (rather than master-plan) instructional improvement. b) Application of many innovations will be supported. Teaching Research will have to be postponed for some time. c) The initiatives of the faculty will be encouraged and supported whenever possible if they are based on sound learning principles. d) Learning rather than teaching will be the chief focus. e) The Division will attempt to stimulate the faculty to direct some of their intellectual effort to examining the learning process.

2) The program resulted from a year long study initiated by the Undergraduate Assessment Committee. Their Teaching Improvement subcommittee joined with those planning coordination of all media services and the planners of the University Library's future. They visited a dozen campuses and conferences during the study and produced a report and proposal which was implemented July 1, 1970.

3) The Division presently consists of a Director and part-time psychologist and a council of Learning Consultants for this planning year. A large staff of support services are directly allied with the Division in the other three divisions of the Learning Resources Program. They include the previous organizations of the entire University Library (Acquisitions and Distribution) and the newly coordinated Production Services (Editorial, Graphics, Photography, Printing and Audio-Visual).

4) The Procedures are just being planned. A systems analyst is examining several existing programs and the council will soon adopt a tentative model. Project initiation rests with the faculty generally. The Validation program awaits next year's staffing.

5) Funding for the program this year has been modest: Two part-time salaries and secretaries. $6500 has been made available for mini-grants. Proposal writing has been a major activity this year. The distribution of the monies has remained with the program rather than the colleges. Budget hearings are occuring this month to determine our initial funding.

6) Our problems are chiefly in getting started and attracting funds. We haven't had sufficient experience with validation, cost effectiveness, R&D systems and modes of time allotments to make decisions yet.

Our strengths lie in the Learning Resources approach, the personnel associated with the program and the receptiveness of some faculty members so far. But the program is yet a fragile flower.

We are anxious to share and meet with others.

Contact

Dr. Douglas D. Alder
Associate Director for
Instructional Improvement

APPENDIX D

CROSS TABULATIONS OF SURVEY DATA AND AGE OF PROGRAMS

Table 7

Age of Program vs. Learn More About ID in General

Age of Program	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Not yet operational	33.33%	33.33%	0.0%	33.33%	0.0%	0.0%	Lambda = 0.179
6 - 12 months	0.0	0.0	0.0	66.67	0.0	33.33	L(A1) = 0.214
13 - 24 months	33.33	0.0	22.22	33.33	11.11	0.0	L(A2) = 0.143
25 - 35 months	12.50	25.00	12.50	25.00	12.50	12.50	Chi Sq. = 21.806^{a}
3 - 5 years	21.43	0.0	28.57	7.14	35.71	7.14	C = 0.599
6 - 10 years	9.09	18.18	18.18	18.18	36.36	0.0	G = 0.034
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.1929

[a] df = 20, not significant at 0.05 level.

Table 8

Age of Program vs. Learn More About Specific Fields

Age of Program	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Not yet operational	66.67%	0.0%	0.0%	33.33%	0.0%	0.0%	Lambda = 0.133
6 - 12 months	66.67	0.0	0.0	33.33	0.0	0.0	L(A1) = 0.100
13 - 24 months	22.22	22.22	22.22	11.11	22.22	0.0	L(A2) = 0.160
25 - 35 months	12.50	0.0	25.00	37.50	12.50	12.50	Chi Sq. = 22.422[a]
3 - 5 years	21.43	0.0	14.29	50.00	14.29	0.0	C = 0.549
6 - 10 years	0.0	7.09	27.27	27.27	27.27	9.09	G = -0.054
Over 10 years	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.2682

[a] df = 24, not significant at the 0.05 level.

Table 9

Age of Program vs. Improve Quality of Instruction

Age of Program	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Not yet operational	0.0%	33.33%	33.33%	0.0%	33.33%	0.0%	Lambda = 0.125
6 - 12 months	0.0	66.67	33.33	0.0	0.0	0.0	L(A1) = 0.118
13 - 24 months	11.11	77.78	0.0	11.11	0.0	0.0	L(A2) = 0.129
25 - 35 months	25.00	12.50	37.50	12.50	12.50	0.0	Chi Sq. = 22.458[a]
3 - 5 years	0.0	78.57	21.43	0.0	0.0	0.0	C = 0.577
6 - 10 years	0.0	54.55	18.18	27.27	0.0	0.0	G = -0.015
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.0686

[a] df = 15, not significant at the 0.05 level.

Table 10

Age of Program vs. Produce Validated Instruction

Age of Program	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Not yet operational	0.0%	33.33%	66.67%	0.0%	0.0%	0.0%	Lambda = 0.049
6 - 12 months	33.33	0.0	33.33	0.0	33.33	0.0	L(A1) = 0.059
13 - 24 months	33.33	11.11	33.33	11.11	11.11	0.0	L(A2) = 0.042
25 - 35 months	12.50	37.50	25.00	12.50	12.50	0.0	Chi Sq. = 7.036[a]
3 - 5 years	35.71	14.29	35.71	7.14	7.14	0.0	C = 0.419
6 - 10 years	54.55	9.09	18.18	9.09	9.09	0.0	G = 0.039
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.1816

[a] df = 18, not significant at the 0.05 level.

Table 11

Age of Program vs. Other Objectives

Age of Program	Percent of Program with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Not yet operational	100.00%	0.0%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.412
6 - 12 months	33.33	33.33	33.33	0.0	0.0	0.0	L(A1) = 0.375
13 - 24 months	77.78	0.0	11.11	11.11	0.0	0.0	L(A2) = 0.444
25 - 35 months	62.50	25.00	0.0	0.0	12.50	0.0	Chi Sq. = 16.500[a]
3 - 5 years	78.57	7.14	0.0	7.14	0.0	7.14	C = 0.761
6 - 10 years	81.82	0.0	18.18	0.0	0.0	0.0	G = 0.174
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.5649

[a] df = 16, not significant at the 0.05 level.

Table 12

Age of Program vs. Tangible ID Products

Age of Program	Percent of ID Programs with the Above Feature						Statistical Measures
	No Response	Yes	No	Usually	Sometimes	Unknown	
Not yet operational	0.0 %	100.00 %	0.0 %	0.0 %	0.0%	0.0%	Lambda = 0.091
6 - 12 months	0.0	66.67	0.0	33.33	0.0	0.0	L(A1) = 0.0
13 - 24 months	0.0	88.89	11.11	0.0	0.0	0.0	L(A2) = 0.118
25 - 35 months	0.0	75.00	0.0	0.0	0.0	0.0	Chi Sq. = 25.024[a]
3 - 5 years	0.0	78.57	0.0	14.29	7.14	0.0	C = 0.585
6 - 10 years	9.09	63.64	9.09	0.0	18.18	0.0	G = 0.264
Over 10 years	0.0	100.00	0.0	0.0	0.0	0.0	Z = 1.0549

[a] df = 30, not significant at the 0.05 level.

Table 13

Age of Program vs. Products Available to Others

Age of Program	Percent of ID Programs with the Above Feature						Statistical Measures
	No Response	Yes	No	Usually	Sometimes	Unknown	
Not yet operational	0.0 %	100.00%	0.0 %	0.0%	0.0%	0.0%	Lambda = 0.088
6 - 12 months	0.0	33.33	0.0	0.0	66.67	0.0	L(A1) = 0.045
13 - 24 months	0.0	44.44	41.11	11.11	11.11	22.22	L(A2) = 0.114
25 - 35 months	0.0	75.00	12.50	0.0	0.0	12.50	Chi Sq. = 31.609[a]
3 - 5 years	0.0	42.86	42.86	0.0	0.0	14.29	C = 0.626
6 - 10 years	0.0	54.55	18.18	9.09	9.09	9.09	G = 0.068
Over 10 years	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.3841

[a] df = 30, not significant at the 0.05 level.

Table 14

Age of Program vs. Emphasis on

Age of Program	No Response	Theoretical Base or Finished Product					Statistical Measures
		1	2	3	4	5	
Not yet operational	0.0%	33.33%	0.0%	0.0%	33.33%	33.33%	Lambda = 0.057
6 - 12 months	0.0	0.0	0.0	66.67	33.33	0.0	L(A1) = 0.0
13 - 24 months	0.0	0.0	22.22	11.11	55.56	11.11	L(A2) = 0.091
25 - 35 months	25.00	0.0	0.0	25.00	37.50	12.50	Chi Sq. = 24.782[a]
3 - 5 years	7.14	0.0	0.0	21.43	57.14	14.29	C = 0.592
6 - 10 years	0.0	0.0	18.18	18.18	54.55	9.09	G = -0.110
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.6109

[a] df = 24, not significant at the 0.05 level.

Table 15

Age of Program vs. Procedural Approaches

Age of Program	No Response	Evolving or Well Defined 1	2	3	4	5	Statistical Measures
Not yet operational	0.0%	33.33%	33.33%	33.33%	0.0%	0.0%	Lambda = 0.129
6 - 12 months	0.0	0.0	33.33	0.0	33.33	33.33	L(A1) = 0.171
13 - 24 months	0.0	11.11	33.33	22.22	22.22	11.11	L(A2) = 0.086
25 - 35 months	0.0	12.50	25.00	37.50	12.50	12.50	Chi Sq. = 16.795[a]
3 - 5 years	0.0	0.0	21.43	42.86	21.43	14.29	C = 0.505
6 - 10 years	0.0	0.0	27.27	18.18	45.45	9.09	G = 0.210
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.3859

[a] df = 24, not significant at the 0.05 level.

Table 16

Age of Program vs. Having

Age of Program	No Response	Strict Procedures or Innovative Atmosphere					Statistical Measures
		1	2	3	4	5	
Not yet operational	0.0%	0.0%	0.0%	0.0%	66.67%	33.33%	Lambda = 0.032
6 - 12 months	0.0	0.0	0.0	33.33	33.33	33.33	L(A1) = 0.0
13 - 24 months	0.0	0.0	22.22	22.22	33.33	22.22	L(A2) = 0.057
25 - 35 months	0.0	0.0	0.0	25.00	50.00	25.00	Chi Sq. = 10.378[a]
3 - 5 years	7.14	0.0	7.14	21.43	35.71	28.57	C = 0.057
6 - 10 years	0.0	0.0	18.18	36.36	45.45	0.0	G = -0.239
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.4622

[a] df = 18, not significant at the 0.05 level.

Table 17

Age of Program vs. Validation

Age of Program	No Response	Consistently Done or Infreq. Attempted					Statistical Measures
		1	2	3	4	5	
Not yet operational	0.0%	33.33%	66.67%	0.0%	0.0%	0.0%	Lambda = 0.077
6 - 12 months	0.0	33.33	33.33	33.33	0.0	0.0	L(A1) = 0.100
13 - 24 months	0.0	22.22	11.11	33.33	33.33	0.0	L(A2) = 0.057
25 - 35 months	0.0	25.00	50.00	0.0	12.50	12.50	Chi Sq. = 18.187[a]
3 - 5 years	0.0	7.14	50.00	21.43	14.29	7.14	C = 0.520
6 - 10 years	0.0	18.18	36.36	9.09	27.27	9.09	G = 0.151
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.9798

[a] df = 24, not significant at the 0.05 level.

Table 18

Age of Program vs. Media Produced

Age of Program	No Response	Consistent High Quality or Lacking Prod. Capability					Statistical Measures
		1	2	3	4	5	
Not yet operational	0.0%	33.33%	33.33%	33.33%	0.0%	0.0%	Lambda = 0.127
6 - 12 months	0.0	0.0	33.33	33.33	33.33	0.0	L(A1) = 0.103
13 - 24 months	11.11	22.22	11.11	44.44	11.11	0.0	L(A2) = 0.147
25 - 35 months	0.0	0.0	50.00	50.00	0.0	0.0	Chi Sq. = 20.760[a]
3 - 5 years	0.0	7.14	57.14	35.71	0.0	0.0	C = 0.549
6 - 10 years	0.0	9.09	27.27	27.27	27.27	9.09	G = 0.113
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.6805

[a] df = 24, not significant at the 0.05 level.

Table 19

Age of Program vs. Readiness

Age of Program	No Response	Consistent High Quality or Lacking Prod. Capability					Statistical Measures
		1	2	3	4	5	
Not yet operational	0.0%	0.0%	33.33%	0.0%	66.67%	0.0%	Lambda = 0.171
6 - 12 months	0.0	66.67	0.0	33.33	0.0	0.0	L(A1) - 0.222
13 - 24 months	0.0	0.0	11.11	33.33	22.22	33.33	L(A2) = 0.118
25 - 35 months	0.0	0.0	37.50	12.50	37.50	12.50	Chi Sq. = 27.517[a]
3 - 5 years	7.14	21.43	14.29	35.71	14.29	7.14	C = 0.608
6 - 10 years	9.09	27.27	27.27	9.09	9.09	18.18	G = -0.191
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.2908

[a] df = 24, not significant at the 0.05 level.

Table 20

Age of Program vs. Organizational Chart

Age of Program	Percent of Programs with the Above Item						Statistical Measures
	No Response	Attached	Sketched	In Prep.	Non-Ext.	Not App.	
Not yet operational	33.33%	0.0%	33.33%	0.0%	33.33%	0.0%	Lambda = 0.056
6 - 12 months	66.67	0.0	33.33	0.0	0.0	0.0	L(A1) = 0.0
13 - 24 months	11.11	11.11	66.67	11.11	0.0	0.0	L(A2) = 0.077
25 - 35 months	12.50	12.50	62.50	0.0	0.0	12.50	Chi Sq. = 11.740[a]
3 - 5 years	28.57	21.43	50.00	0.0	0.0	0.0	C = 0.496
6 - 10 years	27.27	9.09	54.55	0.0	0.0	9.09	G = -0.289
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.9013

[a] df = 15, not significant at the 0.05 level.

Table 21

Age of Program vs. Institutional Relationship

Age of Program	Percent of Programs with the Above Item						Statistical Measures
	No Response	Attached	Sketched	In Prep.	Non-Ext.	Not App.	
Not yet operational	66.67%	0.0%	33.33%	0.0%	0.0%	0.0%	Lambda = 0.182
6 - 12 months	66.67	0.0	33.33	0.0	0.0	0.0	L(A1) = 0.091
13 - 24 months	11.11	11.11	66.67	0.0	11.11	0.0	L(A2) = 0.227
25 - 35 months	37.50	25.00	25.00	0.0	0.0	12.50	Chi Sq. = 16.771[a]
3 - 5 years	35.71	0.0	57.14	7.14	0.0	0.0	C = 0.593
6 - 10 years	36.36	27.27	18.18	9.09	0.0	9.09	G = -0.171
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.6469

[a] df = 20, not significant at the 0.05 level.

Table 22

Age of Program vs. Units Started

Age of Program	Trends of the Above Characteristic By Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	0.0%	33.33%	0.0%	0.0%	66.67%	0.0%	Lambda = 0.208
6 - 12 months	33.33	33.33	0.0	0.0	33.33	0.0	L(A1) = 0.240
13 - 24 months	11.11	44.44	0.0	11.11	0.0	33.33	L(A2) = 0.179
25 - 35 months	12.50	37.50	12.50	12.50	25.00	0.0	Chi Sq. = 27.950[a]
3 - 5 years	0.0	57.14	21.43	7.14	14.29	0.0	C = 0.632
6 - 10 years	36.36	0.0	0.0	9.09	36.36	18.18	G = 0.218
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.1128

[a] df = 24, not significant at the 0.05 level.

Table 23

Age of Program vs. Units into Production

Age of Program	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	0.0%	66.67%	0.0%	0.0%	33.33%	0.0%	Lambda = 0.222
6 - 12 months	33.33	33.33	0.0	0.0	33.33	0.0	L(A1) = 0.308
13 - 24 months	11.11	44.44	0.0	11.11	0.0	33.33	L(A2) = 0.143
25 - 35 months	12.50	12.50	12.50	12.50	50.00	0.0	Chi Sq. = 24.422[a]
3 - 5 years	14.29	42.86	7.14	14.29	21.43	0.0	C = 0.616
6 - 10 years	36.36	0.0	0.0	9.09	36.36	18.18	G = 0.338
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.6931

[a] df = 24, not significant at the 0.05 level.

Table 24

Age of Program vs. Units Completed

Age of Program	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	0.0%	66.67%	0.0%	0.0%	33.33%	0.0%	Lambda = 0.208
6 - 12 months	33.33	33.33	0.0	0.0	33.33	0.0	L(A1) = 0.217
13 - 24 months	22.22	11.11	0.0	22.22	11.11	33.33	L(A2) = 0.200
25 - 35 months	37.50	12.50	12.50	12.50	25.00	0.0	Chi Sq. = 26.584[a]
3 - 5 years	7.14	50.00	7.14	0.0	35.71	0.0	C = 0.642
6 - 10 years	36.36	0.0	0.0	9.09	36.36	18.18	G = 0.235
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.1140

[a] df = 24, not significant at the 0.05 level.

Table 25

Age of Program vs. Units Validated

Age of Program	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	0.0%	66.67%	0.0%	0.0%	33.33%	0.0%	Lambda = 0.167
6 - 12 months	66.67	0.0	0.0	0.0	33.33	0.0	L(A1) = 0.167
13 - 24 months	44.44	22.22	0.0	11.11	0.0	22.22	L(A2) = 0.167
25 - 35 months	62.50	0.0	12.50	12.50	12.50	0.0	Chi Sq. = 25.169[a]
3 - 5 years	21.43	35.71	7.14	0.0	35.71	0.0	C = 0.682
6 - 10 years	54.55	0.0	0.0	9.09	18.18	18.18	G = 0.265
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.0779

[a] df = 24, not significant at the 0.05 level.

Table 26

Age of Program vs. Units Used at Institution

Age of Program	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	0.0%	66.67%	0.0%	0.0%	33.33%	0.0%	Lambda = 0.175
6 - 12 months	33.33	33.33	0.0	0.0	33.33	0.0	L(A1) = 0.200
13 - 24 months	44.44	11.11	0.0	11.11	11.11	22.22	L(A2) = 0.150
25 - 35 months	62.50	0.0	12.50	12.50	12.50	0.0	Chi Sq. = 22.246[a]
3 - 5 years	21.43	42.86	7.14	0.0	28.57	0.0	C = 0.646
6 - 10 years	45.45	9.09	0.0	9.09	18.18	18.18	G = 0.075
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.3021

[a] df = 24, not significant at the 0.05 level.

Table 27

Age of Program vs. Units Used by Others

Age of Program	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	33.33%	0.0%	0.0%	0.0%	66.67%	0.0%	Lambda = 0.226
6 - 12 months	66.67	0.0	0.0	0.0	33.33	0.0	L(A1) = 0.214
13 - 24 months	44.44	11.11	11.11	11.11	0.0	22.22	L(A2) = 0.235
25 - 35 months	62.50	0.0	0.0	25.00	12.50	0.0	Chi Sq. = 25.113[a]
3 - 5 years	28.57	21.43	7.14	0.0	42.86	0.0	C = 0.694
6 - 10 years	54.55	0.0	0.0	9.09	18.18	18.18	G = 0.051
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.1736

[a] df = 24, not significant at the 0.05 level.

Table 28

Age of Program vs. Completeness of Process

Age of Program	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Not yet operational	33.33 %	0.0 %	0.0 %	33.33 %	33.33 %	0.0 %	Lambda = 0.095
6 - 12 months	66.67	0.0	0.0	33.33	0.0	0.0	L(A1) = 0.050
13 - 24 months	11.11	22.22	0.0	22.22	22.22	22.22	L(A2) = 0.136
25 - 35 months	62.50	0.0	12.50	12.50	12.50	0.0	Chi Sq. = 20.524[a]
3 - 5 years	14.29	28.57	7.14	21.43	28.57	0.0	C = 0.614
6 - 10 years	36.36	0.0	0.0	9.09	45.45	9.09	G = 0.245
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.1146

[a] df = 24, not significant at the 0.05 level.

Table 29

Age of Program vs. Number of Ph.D.'s Needed

Age of Program	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Not yet operational	100.00 %	0.0%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.364
6 - 12 months	0.0	66.67	0.0	0.0	33.33	0.0	L(A1) = 0.333
13 - 24 months	88.89	0.0	0.0	0.0	11.11	0.0	L(A2) = 0.385
25 - 35 months	37.50	25.00	0.0	37.50	0.0	0.0	Chi Sq. = 20.589[a]
3 - 5 years	50.00	42.86	0.0	0.0	7.14	0.0	C = 0.712
6 - 10 years	63.64	9.09	9.09	0.0	18.18	0.0	G = -0.010
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.0125

[a] df = 12, not significant at the 0.05 level.

Table 30

Age of Program vs. Number of Ed.D.'s Needed

Age of Program	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Not yet operational	66.67 %	0.0%	0.0 %	0.0%	33.33%	0.0%	Lambda = 0.120
6 - 12 months	0.0	33.33	0.0	33.33	33.33	0.0	L(A1) = 0.111
13 - 24 months	66.67	0.0	0.0	22.22	11.11	0.0	L(A2) = 0.125
25 - 35 months	62.50	12.50	0.0	25.00	0.0	0.0	Chi Sq. = 12.499[a]
3 - 5 years	57.14	7.14	0.0	35.71	0.0	0.0	C = 0.593
6 - 10 years	36.36	0.0	9.09	36.36	18.18	0.0	G = -0.073
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.2575

[a] df = 15, not significant at the 0.05 level.

Table 31

Age of Program vs. Number of MA/MS's Needed

Age of Program	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Not yet operational	66.67%	33.33%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.136
6 - 12 months	0.0	33.33	0.0	33.33	33.33	0.0	L(A1) = 0.182
13 - 24 months	55.56	11.11	0.0	11.11	22.22	0.0	L(A2) = 0.091
25 - 35 months	87.50	0.0	0.0	0.0	12.50	0.0	Chi Sq. = 9.562[a]
3 - 5 years	35.71	28.57	0.0	28.57	7.14	0.0	C = 0.569
6 - 10 years	81.82	18.18	0.0	0.0	0.0	0.0	G = -0.340
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 1.1980

[a] df = 10, not significant at the 0.05 level.

Table 32

Age of Program vs. Number of BA/BS's Needed

Age of Program	Percent of Program Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Not yet operational	100.00%	0.0%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.250
6 - 12 months	33.33	33.33	0.0	0.0	33.33	0.0	L(A1) = 0.250
13 - 24 months	77.78	0.0	0.0	11.11	11.11	0.0	L(A2) = 0.250
25 - 35 months	100.00	0.0	0.0	0.0	0.0	0.0	Chi Sq. = 4.500[a]
3 - 5 years	71.43	21.43	0.0	7.14	0.0	0.0	C = 0.600
6 - 10 years	100.00	0.0	0.0	0.0	0.0	0.0	G = -0.600
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 1.2810

[a] df = 4, not significant at the 0.05 level.

Table 33

Age of Program vs. Number with Less Than BS/BA

Age of Program	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Not yet operational	100.00 %	0.0%	0.0%	0.0 %	0.0%	0.0 %	Lambda = 0.143
6 - 12 months	33.33	33.33	0.0	0.0	33.33	0.0	L(A1) = 0.250
13 - 24 months	100.00	0.0	0.0	0.0	0.0	0.0	L(A2) = 0.0
25 - 35 months	100.00	0.0	0.0	0.0	0.0	0.0	Chi Sq. = 3.208[a]
3 - 5 years	71.43	7.14	0.0	14.29	7.14	0.0	C = 0.561
6 - 10 years	90.91	0.0	0.0	0.0	9.09	0.0	G = 0.400
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.6793

[a] df = 4, not significant at the 0.05 level.

Table 34

Age of Program vs. Director Control over Participating Faculty

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0 %	0.0 %	33.33%	33.33%	0.0 %	33.33%	Lambda = 0.121
6 - 12 months	33.33	0.0	0.0	0.0	33.33	33.33	0.0	L(A1) = 0.091
13 - 24 months	0.0	0.0	11.11	33.33	11.11	22.22	22.22	L(A2) = 0.152
25 - 35 months	0.0	0.0	0.0	12.50	37.50	37.50	12.50	Chi Sq. = 22.341[a]
3 - 5 years	14.29	7.14	14.29	28.57	28.57	7.14	0.0	C = 0.576
6 - 10 years	9.09	18.18	18.18	18.18	9.09	9.09	18.18	G = -0.382
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	0.0	Z = 2.357

[a] df = 30, not significant at the 0.05 level.

Table 35

Age of Program vs. Director Control over Project Selection

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	33.33%	33.33%	0.0%	33.33%	Lambda = 0.125
6 - 12 months	33.33	0.0	0.0	33.33	0.0	33.33	0.0	L(A1) = 0.129
13 - 24 months	0.0	0.0	0.0	11.11	22.22	55.56	11.11	L(A2) = 0.121
25 - 35 months	0.0	0.0	0.0	12.50	37.50	37.50	12.50	Chi Sq. = 17.835[a].
3 - 5 years	0.0	0.0	7.14	21.43	42.86	21.43	7.14	C = 0.525
6 - 10 years	9.09	9.09	9.09	18.18	9.09	27.27	18.18	G = -0.227
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.2680

[a] df = 30, not significant at the 0.05 level.

Table 36

Age of Program vs. Director Control over Project Approach

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0 %	0.0 %	66.67%	0.0%	33.33%	Lambda = 0.194
6 - 12 months	0.0	0.0	0.0	33.33	0.0	66.67	0.0	L(A1) = 0.200
13 - 24 months	22.22	0.0	0.0	11.11	22.22	44.44	0.0	L(A2) = 0.188
25 - 35 months	0.0	0.0	0.0	12.50	25.00	50.00	12.50	Chi Sq. = 27.264[a]
3 - 5 years	14.29	0.0	14.29	35.71	28.57	7.14	0.0	C = 0.619
6 - 10 years	9.09	9.09	9.09	18.18	18.18	18.18	18.18	G = -0.411
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 2.3689

[a] df = 30, not significant at the 0.05 level.

Table 37

Age of Program vs. Director Control over Media Selection

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0 %	0.0 %	0.0 %	33.33 %	0.0 %	33.33 %	0.0 %	Lambda = 0.092
6 - 12 months	0.0	0.0	0.0	33.33	33.33	33.33	0.0	L(A1) = 0.094
13 - 24 months	11.11	0.0	0.0	11.11	33.33	33.33	11.11	L(A2) = 0.091
25 - 35 months	0.0	0.0	0.0	37.50	25.00	25.00	12.50	Chi Sq. = 18.909[a]
3 - 5 years	0.0	0.0	15.38	38.46	30.77	15.38	0.0	C = 0.540
6 - 10 years	9.09	9.09	0.0	27.27	27.27	18.18	9.09	G = -0.253
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.4337

[a] df = 30, not significant at the 0.05 level.

Table 38

Age of Program vs. Director Control over Media Production

Age of Program	No Response	None to Advisory to Autonomy 1	2	3	4	5	Not App.	Statistical Measures
Not operational	0.0 %	0.0%	0.0%	0.0%	0.0%	100.00%	0.0%	Lambda = 0.071
6 - 12 months	0.0	0.0	0.0	0.0	33.33	33.33	33.33	L(A1) = 0.040
13 - 24 months	11.11	0.0	0.0	22.22	11.11	44.44	11.11	L(A2) = 0.097
25 - 35 months	0.0	0.0	12.50	12.50	25.00	37.50	12.50	Chi Sq. = 16.453[a].
3 - 5 years	14.29	7.14	7.14	21.43	14.29	35.71	0.0	C = 0.526
6 - 10 years	27.27	0.0	0.0	0.0	36.36	27.27	9.09	G = -0.018
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.0836

[a] df = 30, not significant at the 0.05 level.

Table 39

Age of Program vs. Director Control over Validation

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	33.33%	0.0%	33.33%	33.33%	Lambda = 0.217
6 - 12 months	33.33	0.0	0.0	0.0	33.33	33.33	0.0	L(A1) = 0.207
13 - 24 months	22.22	0.0	0.0	44.44	0.0	33.33	0.0	L(A2) = 0.226
25 - 35 months	0.0	12.50	0.0	12.50	12.50	50.00	12.50	Chi Sq. = 30.325[a].
3 - 5 years	14.29	7.14	21.43	42.86	7.14	7.14	0.0	C = 0.643
6 - 10 years	9.09	9.09	0.0	18.18	27.27	18.18	18.18	G = -0.233
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.3309

[a] df = 30, not significant at the 0.05 level.

Table 40

Age of Program vs. Director Control over Utilization

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	33.33%	0.0%	33.33%	33.33%	Lambda = 0.177
6 - 12 months	33.33	0.0	0.0	0.0	33.33	33.33	0.0	L(A1) = 0.167
13 - 24 months	11.11	11.11	0.0	44.44	0.0	22.22	11.11	L(A2) = 0.188
25 - 35 months	0.0	0.0	0.0	12.50	25.00	37.50	25.00	Chi Sq. = 30.438[a].
3 - 5 years	14.29	0.0	14.29	42.86	21.43	7.14	0.0	C = 0.639
6 - 10 years	9.09	18.18	0.0	18.18	27.27	18.18	9.09	G = -0.187
Over 10 years	0.0	0.0	0.0	0.0	0.0	0.0	100.00	Z = 1.0579

[a] df = 30, not significant at the 0.05 level.

Table 41

Age of Program vs. Control Director Should Have over Participating Faculty

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	33.33%	33.33%	0.0%	33.33%	Lambda = 0.161
6 - 12 months	33.33	0.0	0.0	0.0	33.33	33.33	0.0	L(A1) = 0.179
13 - 24 months	33.33	11.11	0.0	22.22	0.0	22.22	11.11	L(A2) = 0.143
25 - 35 months	0.0	12.50	0.0	12.50	37.50	25.00	12.50	Chi Sq. = 26.901[a]
3 - 5 years	21.43	0.0	7.14	35.71	21.43	14.29	0.0	C = 0.639
6 - 10 years	27.27	27.27	9.09	0.0	27.27	0.0	9.09	G = -0.301
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.6803

[a] df = 30, not significant at the 0.05 level.

Table 42

Age of Program vs. Control Director Should Have over Project Selection

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	33.33%	33.33%	0.0%	33.33%	Lambda = 0.154
6 - 12 months	33.33	0.0	0.0	33.33	0.0	33.33	0.0	L(A1) = 0.160
13 - 24 months	33.33	0.0	0.0	11.11	22.22	22.22	11.11	L(A2) = 0.148
25 - 35 months	12.50	0.0	0.0	12.50	37.50	25.00	12.50	Chi Sq. = 17.537[a]
3 - 5 years	28.57	0.0	0.0	21.43	35.71	14.29	0.0	C = 0.567
6 - 10 years	27.27	9.09	0.0	18.18	9.09	9.09	27.27	G = -0.197
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.9236

[a] df = 24, not significant at the 0.05 level.

Table 43

Age of Program vs. Control Director Should Have over Project Approach

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	0.0%	66.67%	0.0%	33.33%	Lambda = 0.245
6 - 12 months	0.0	0.0	0.0	33.33	0.0	66.67	0.0	L(A1) = 0.320
13 - 24 months	44.44	0.0	0.0	0.0	22.22	33.33	0.0	L(A2) = 0.179
25 - 35 months	0.0	0.0	0.0	12.50	50.00	25.00	12.50	Chi Sq. = 31.472[a]
3 - 5 years	14.29	0.0	0.0	50.00	21.43	14.29	0.0	C = 0.664
6 - 10 years	27.27	9.09	0.0	9.09	36.36	0.0	18.18	G = -0.460
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 2.4124

[a] df = 24, not significant at the 0.05 level.

Table 44

Age of Program vs. Control Director Should Have over Media Selection

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	33.33%	0.0%	33.33%	33.33%	Lambda = 0.113
6 - 12 months	0.0	0.0	0.0	33.33	33.33	33.33	0.0	L(A1) = 0.080
13 - 24 months	44.44	0.0	0.0	11.11	11.11	22.22	11.11	L(A2) = 0.143
25 - 35 months	0.0	0.0	0.0	50.00	25.00	12.50	12.50	Chi Sq. = 22.121[a]
3 - 5 years	21.43	0.0	14.29	35.71	21.43	0.0	7.14	C = 0.602
6 - 10 years	27.27	9.09	0.0	18.18	18.18	9.09	18.18	G = -0.336
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.6897

[a] df = 30, not significant at the 0.05 level.

Table 45

Age of Program vs. Control Director Should Have over Media Production

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0%	0.0%	0.0%	33.33%	33.33%	33.33%	Lambda = 0.082
6 - 12 months	0.0	0.0	0.0	33.33	33.33	33.33	0.0	L(A1) = 0.083
13 - 24 months	55.56	0.0	0.0	11.11	0.0	22.22	11.11	L(A2) = 0.080
25 - 35 months	0.0	0.0	0.0	50.00	12.50	25.00	12.50	Chi Sq. = 17.534[a]
3 - 5 years	7.14	7.14	7.14	21.43	21.43	25.71	0.0	C = 0.562
6 - 10 years	45.45	9.09	0.0	0.0	18.18	18.18	9.09	G = -0.078
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.3776

[a] df = 30, not significant at the 0.05 level.

Table 46

Age of Program vs. Control Director Should Have over Validation

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0 %	0.0 %	0.0 %	33.33 %	0.0 %	33.33 %	33.33 %	Lambda = 0.302
6 - 12 months	33.33	0.0	0.0	0.0	33.33	33.33	0.0	L(A1) = 0.346
13 - 24 months	33.33	0.0	0.0	22.22	0.0	44.44	0.0	L(A2) = 0.259
25 - 35 months	12.50	0.0	0.0	25.00	12.50	50.00	0.0	Chi Sq. = 33.923[a]
3 - 5 years	21.43	7.14	7.14	35.71	21.43	7.14	0.0	C = 0.687
6 - 10 years	27.27	0.0	9.09	0.0	45.45	0.0	18.18	G = -0.349
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.9066

[a] df = 30, not significant at the 0.05 level.

Table 47

Age of Program vs. Control Director Should Have over Utilization

Age of Program	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Not operational	0.0%	0.0 %	0.0%	33.33%	0.0%	33.33%	33.33%	Lambda = 0.196
6 - 12 months	66.67	0.0	0.0	0.0	33.33	0.0	0.0	L(A1) = 0.182
13 - 24 months	55.56	0.0	0.0	22.22	0.0	11.11	11.11	L(A2) = 0.208
25 - 35 months	12.50	0.0	0.0	25.00	37.50	25.00	0.0	Chi Sq. = 28.974[a]
3 - 5 years	14.29	0.0	7.14	50.00	28.57	0.0	0.0	C = 0.668
6 - 10 years	27.27	9.09	0.0	18.18	27.27	0.0	18.18	G = -0.336
Over 10 years	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.5572

[a] df = 30, not significant at the 0.05 level.

Table 48

Age of Program vs. Changes in Administrative Organization

Age of Program	No Response	Up Graded	Down Graded	Toward Acad. Emph.	From Acad. Emph.	Prod. Capab. Added	None	Not App.	Statistical Measures
Not operational	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.00%	0.0%	Lambda = 0.157
6 - 12 months	0.0	0.0	0.0	0.0	33.33	0.0	33.33	33.33	L(A1) = 0.050
13 - 24 months	0.0	11.11	0.0	0.0	0.0	0.0	77.78	11.11	L(A2) = 0.226
25 - 35 months	0.0	42.86	0.0	14.29	0.0	0.0	42.86	0.0	Chi Sq. = 49.296[ab]
3 - 5· years	7.69	0.0	0.0	30.77	0.0	15.38	38.46	7.69	C = 0.731
6 - 10 years	10.00	20.00	10.00	0.0	0.0	0.0	50.00	10.00	G = -0.214
Over 10 years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.00	Z = 1.0795

[a] df = 36, not significant at the 0.05 level.

[b] Becomes significant at the 0.01 level when NA is deleted and only programs under ten years are considered.

Table 49

Age of Program vs. Changes in Program Strategy

Age of Program	No Response	More Sophisticated	More Flexible	Valid. Added	Design Added	Present Tech. Changed	None	Not App.	Statistical Measures
Not operational	0.0%	50.00%	0.0%	0.0%	50.00%	0.0%	0.0%	0.0%	Lambda = 0.150
6 - 12 months	0.0	33.33	0.0	0.0	0.0	33.33	0.0	33.33	L(A1) = 0.161
13 - 24 months	11.11	11.11	11.11	0.0	22.22	0.0	33.33	11.11	L(A2) = 0.138
25 - 35 months	14.29	0.0	28.57	0.0	0.0	28.57	28.57	0.0	Chi Sq. = 32.658[a]
3 - 5 years	8.33	16.67	8.33	0.0	16.67	16.67	33.33	0.0	C = 0.670
6 - 10 years	0.0	11.11	22.22	11.11	22.22	11.11	0.0	22.22	G = -0.053
Over 10 years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.00	Z = 0.3034

[a] df = 36, not significant at the 0.05 level.

Table 50

Age of Program vs. Insufficient Funds

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	66.67%	0.0%	0.0%	0.0%	Lambda = 0.133
6 - 12 months	33.33	33.33	33.33	0.0	0.0	0.0	L(A1) = 0.158
13 - 24 months	22.22	44.44	11.11	22.22	0.0	0.0	L(A2) = 0.115
25 - 35 months	37.50	50.00	12.50	0.0	0.0	0.0	Chi Sq. = 22.839[a]
3 - 5 years	14.29	50.00	21.43	0.0	14.29	0.0	C = 0.613
6 - 10 years	18.18	27.27	27.27	0.0	27.27	0.0	G = 0.164
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.8155

[a] df = 18, not significant at the 0.05 level.

Table 51

Age of Program vs. Lack of Qualified Personnel

Age of Program	Percent of Programs Indicating the Above Is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	66.67%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.239
6 - 12 months	33.33	0.0	33.33	0.0	33.33	0.0	L(A1) = 0.200
13 - 24 months	11.11	33.33	44.44	0.0	11.11	0.0	L(A2) = 0.269
25 - 35 months	37.50	12.50	25.00	12.50	12.50	0.0	Chi Sq. = 28.744[a]
3 - 5 years	28.57	14.29	7.14	21.43	21.43	7.14	C = 0.666
6 - 10 years	27.27	0.0	63.64	0.0	0.0	9.09	G = 0.262
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.4652

[a] df = 24, not significant at the 0.05 level.

Table 52

Age of Program vs. Information Regarding ID Process

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0 %	0.0 %	33.33%	33.33%	0.0%	Lambda = 0.098
6 - 12 months	33.33	0.0	0.0	33.33	33.33	0.0	L(A1) = 0.158
13 - 24 months	55.56	0.0	11.11	0.0	33.33	0.0	L(A2) = 0.045
25 - 35 months	25.00	0.0	37.50	25.00	12.50	0.0	Chi Sq. = 12.498[a]
3 - 5 years	14.29	7.14	35.71	14.29	28.57	0.0	C = 0.518
6 - 10 years	27.27	9.09	0.0	18.18	45.45	0.0	G = -0.016
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.0680

[a] df = 15, not significant at the 0.05 level.

Table 53

Age of Program vs. Information Regarding ID Implementation

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	0.0%	33.33%	33.33%	0.0%	Lambda = 0.128
6 - 12 months	66.67	0.0	0.0	0.0	33.33	0.0	L(A1) = 0.211
13 - 24 months	55.56	0.0	11.11	0.0	33.33	0.0	L(A2) = 0.050
25 - 35 months	37.50	0.0	25.00	25.00	12.50	0.0	Chi Sq. = 9.670[a]
3 - 5 years	14.29	7.14	14.29	42.86	21.43	0.0	C = 0.482
6 - 10 years	27.27	0.0	9.09	27.27	36.36	0.0	G = -0.050
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.2211

[a] df = 15, not significant at the 0.05 level.

Table 54

Age of Program vs. Lack of Interest

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures		
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious			
Not yet operational	33.33%	0.0%	0.0%	66.67%	0.0%	0.0%	Lambda	=	0.302
6 - 12 months	33.33	33.33	0.0	33.33	0.0	0.0	L(A1)	=	0.350
13 - 24 months	44.44	11.11	11.11	33.33	0.0	0.0	L(A2)	=	0.261
25 - 35 months	62.50	0.0	12.50	25.00	0.0	0.0	Chi Sq.	=	27.642[a]
3 - 5 years	14.29	0.0	64.29	7.14	14.29	0.0	C	=	0.664
6 - 10 years	9.09	36.36	36.36	9.09	9.09	0.0	G	=	-0.371
Over 10 years	0.0	100.00	0.0	0.0	0.0	0.0	Z	=	1.9460

[a] df = 18, not significant at the 0.05 level.

Table 55

Age of Program vs. Physical Plant Facilities

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	0.0%	66.67%	0.0%	0.0%	Lambda = 0.200
6 - 12 months	33.33	0.0	33.33	33.33	0.0	0.0	L(A1) = 0.188
13 - 24 months	55.56	0.0	22.22	0.0	11.11	11.11	L(A2) = 0.211
25 - 35 months	37.50	12.50	25.00	25.00	0.0	0.0	Chi Sq. = 25.764[a]
3 - 5 years	14.29	14.29	64.29	0.0	7.14	0.0	C = 0.674
6 - 10 years	45.45	0.0	9.09	18.18	9.09	18.18	G = 0.025
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.1371

[a] df = 20, not significant at the 0.05 level.

Table 56

Age of Program vs. Lacking Administrative Support

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	0.0%	66.67%	0.0%	0.0%	Lambda = 0.279
6 - 12 months	33.33	0.0	66.67	0.0	0.0	0.0	L(A1) = 0.286
13 - 24 months	55.56	0.0	11.11	11.11	22.22	0.0	L(A2) = 0.273
25 - 35 months	62.50	0.0	12.50	12.50	12.50	0.0	Chi Sq. = 24.988[a]
3 - 5 years	28.57	14.29	7.14	28.57	21.43	0.0	C = 0.662
6 - 10 years	9.09	9.09	45.45	0.0	18.18	18.18	G = -0.007
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.0225

[a] df = 24, not significant at the 0.05 level.

Table 57

Age of Program vs. Lacking Production Capability

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	33.33%	0.0%	33.33%	0.0%	Lambda = 0.119
6 - 12 months	33.33	0.0	66.67	0.0	0.0	0.0	L(A1) = 0.158
13 - 24 months	33.33	0.0	33.33	22.22	0.0	11.11	L(A2) = 0.087
25 - 35 months	25.00	0.0	50.00	12.50	12.50	0.0	Chi Sq. = 14.924[a]
3 - 5 years	21.43	0.0	35.71	28.57	14.29	0.0	C = 0.552
6 - 10 years	36.36	0.0	0.0	27.27	27.27	9.09	G = 0.441
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 2.2551

[a] df = 15, not significant at the 0.05 level.

Table 58

Age of Program vs. Lack of Validation Capability

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	66.67%	0.0%	0.0%	0.0%	Lambda = 0.179
6 - 12 months	100.00	0.0	0.0	0.0	0.0	0.0	L(A1) = 0.211
13 - 24 months	44.44	0.0	33.33	11.11	11.11	0.0	L(A2) = 0.150
25 - 35 months	37.50	0.0	37.50	25.00	0.0	0.0	Chi Sq. = 17.288[a]
3 - 5 years	28.57	7.14	14.29	21.43	28.57	0.0	C = 0.605
6 - 10 years	27.27	9.09	9.09	27.27	9.09	18.18	G = 0.388
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 1.9044

[a] df = 16, not significant at the 0.05 level.

Table 59

Age of Program vs. Lack of Utilization Control

Age of Program	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Not yet operational	33.33%	0.0%	33.33%	33.33%	0.0%	0.0%	Lambda = 0.150
6 - 12 months	67.67	0.0	0.0	33.33	0.0	0.0	L(A1) = 0.211
13 - 24 months	44.44	0.0	22.22	22.22	11.11	0.0	L(A2) = 0.095
25 - 35 months	50.00	0.0	37.50	12.50	0.0	0.0	Chi Sq. = 9.032[a]
3 - 5 years	21.43	0.0	14.29	28.57	35.71	0.0	C = 0.501
6 - 10 years	27.27	0.0	36.36	27.27	9.09	0.0	G = 0.062
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.2696

[a] df = 12, not significant at the 0.05 level .

Table 60

Age of Program vs. Other Obstacles to Effective ID

Age of Program	Percent of Programs Responding to the Above				Statistical Measures
	No Response	Time	No Support	Salary	
Not yet operational	66.67%	33.33%	0.0%	0.0%	Lambda = 0.859
6 - 12 months	100.00	0.0	0.0	0.0	L(A1) = 1.000
13 - 24 months	88.89	0.0	0.0	11.11	L(A2) = 0.750
25 - 35 months	100.00	0.0	0.0	0.0	Chi Sq. = 12.000[a]
3 - 5 years	85.71	14.29	0.0	0.0	C = 0.816
6 - 10 years	81.82	0.0	18.18	0.0	G = 0.278
Over 10 years	100.00	0.0	0.0	0.0	Z = 0.5730

[a] df = 6, not significant at the 0.05 level.

Table 61

Age of Program vs. Disengagement Procedures

Age of Program	No Response	Admin Action	Mutual Agree	Project Dormont	Not yet Enctrd.	Efficient Prescreen	Not App.	Statistical Measures
Not operational	0.0%	33.33%	0.0%	0.0%	33.33%	33.33%	0.0%	Lambda = 0.212
6 - 12 months	0.0	66.67	0.0	0.0	33.33	0.0	0.0	L(A1) = 0.167
13 - 24 months	11.11	0.0	0.0	11.11	55.56	11.11	11.11	L(A2) = 0.250
25 - 35 months	0.0	25.00	0.0	12.50	25.00	12.50	25.00	Chi Sq. = 24.210[a]
3 - 5. years	38.46	30.77	15.38	0.0	7.69	0.0	7.69	C = 0.634
6 - 10 years	50.00	10.00	10.00	10.00	10.00	0.0	10.00	G = -0.307
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 1.6126

[a] df = 30, not significant at the 0.05 level.

Table 62

Age of Program vs. Central Geographic Location

Age of Program	No Response	Yes	No	Not App.	Statistical Measures
Not yet operational	0.0%	66.67%	33.33%	0.0%	Lambda = 0.070
6 - 12 months	0.0	100.00	0.0	0.0	L(A1) = 0.111
13 - 24 months	0.0	100.00	0.0	0.0	L(A2) = 0.059
25 - 35 months	0.0	75.00	25.00	0.0	Chi Sq. = 30.729[a]
3 - 5 years	0.0	85.71	7.14	7.14	C = 0.625
6 - 10 years	9.09	63.64	27.27	0.0	G = 0.274
Over 10 years	0.0	0.0	0.0	100.00	Z = 0.8985

[a] df = 12, not significant at the 0.02 level.

Table 63

Age of Program vs. Tenure of Facility

Age of Program	No Response	Permanent	Temporary	Not App.	Statistical Measures
Not yet operational	0.0%	66.67%	33.33%	0.0%	Lambda = 0.157
6 - 12 months	0.0	66.67	33.33	0.0	L(A1) = 0.176
13 - 24 months	0.0	77.78	22.22	0.0	L(A2) = 0.147
25 - 35 months	0.0	50.00	37.50	12.50	Chi Sq. = 25.457[a]
3 - 5 years	0.0	85.71	7.14	7.14	C = 0.589
6 - 10 years	9.09	36.36	54.55	0.0	G = 0.196
Over 10 years	0.0	0.0	0.0	100.0	Z = 0.8476

[a] df = 12, not significant at the 0.01 level.

Table 64

Age of Program vs. Program Tenure at Present Location

Age of Program	No Response	Permanent	Temporary	Not App.	Statistical Measures
Not yet operational	0.0 %	33.33 %	33.33%	33.33 %	Lambda = 0.018
6 - 12 months	0.0	100.00	0.0	0.0	L(A1) = 0.050
13 - 24 months	0.0	66.67	22.22	11.11	L(A2) = 0.0
25 - 35 months	0.0	62.50	25.00	12.50	Chi Sq. = 9.444[a]
3 - 5 years	0.0	50.00	28.57	21.43	C = 0.402
6 - 10 years	0.0	63.64	27.27	9.09	G = 0.116
Over 10 years	0.0	0.0	0.0	100.00	Z = 0.4093

[a] df = 12, not significant at the 0.05 level.

Table 65

Age of Program vs. Administrations Attitude Toward ID Program

Age of Program	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Not operational	0.0%	66.67%	33.33%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.143
6 - 12 months	0.0	66.67	33.33	0.0	0.0	0.0	0.0	L(A1) = 0.241
13 - 24 months	0.0	33.33	55.56	11.11	0.0	0.0	0.0	L(A2) = 0.059
25 - 35 months	0.0	50.00	12.50	37.50	0.0	0.0	0.0	Chi Sq. = 16.468[a]
3 - 5 years	0.0	28.57	57.14	14.29	0.0	0.0	0.0	C = 0.505
6 - 10 years	9.09	36.36	27.27	18.18	9.09	0.0	0.0	G = 0.209
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.2071

[a] df = 18, not significant at the 0.05 level.

Table 66

Age of Program vs. Participating Faculty Attitude Toward ID Program

Age of Program	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Not operational	0.0%	33.33%	66.67%	100.00%	0.0%	0.0%	0.0%	Lambda = 0.069
6 - 12 months	0.0	33.33	33.33	33.33	0.0	0.0	0.0	L(A1) = 0.080
13 - 24 months	11.11	11.11	55.56	11.11	11.11	0.0	0.0	L(A2) = 0.061
25 - 35 months	0.0	37.50	67.50	0.0	0.0	0.0	0.0	Chi Sq. = 25.459[a]
3 - 5 years	0.0	35.71	42.86	21.43	0.0	0.0	0.0	C = 0.593
6 - 10 years	9.09	18.18	27.27	36.36	9.09	0.0	0.0	G = 0.161
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.9232

[a] df = 18, not significant at the 0.05 level.

Table 67

Age of Program vs. ID Staff Members Attitude Toward Program

Age of Program	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Not operational	0.0%	66.67%	33.33%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.042
6 - 12 months	0.0	33.33	66.67	0.0	0.0	0.0	0.0	L(A1) = 0.118
13 - 24 months	0.0	55.56	44.44	0.0	0.0	0.0	0.0	L(A2) = 0.0
25 - 35 months	12.50	75.00	12.50	0.0	0.0	0.0	0.0	Chi Sq. = 10.402[a]
3 - 5 years	7.14	50.00	28.57	14.29	0.0	0.0	0.0	C = 0.437
6 - 10 years	27.27	54.55	18.18	0.0	0.0	0.0	0.0	G = -0.098
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.442

[a] df = 12, not significant at the 0.05 level.

Table 68

Age of Program vs. Attitude of ID Program Trainees

Age of Program	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Not operational	33.33%	0.0%	33.33%	0.0%	0.0%	0.0%	33.33%	Lambda = 0.135
6 - 12 months	33.33	33.33	33.33	0.0	0.0	0.0	0.0	L(A1) = 0.133
13 - 24 months	44.44	11.11	22.22	22.22	0.0	0.0	0.0	L(A2) = 0.136
25 - 35 months	37.50	37.50	12.50	12.50	0.0	0.0	0.0	Chi Sq. = 20.321[a]
3 - 5 years	21.43	7.14	57.14	7.14	0.0	0.0	7.14	C = 0.617
6 - 10 years	36.36	27.27	36.36	0.0	0.0	0.0	0.0	G = -0.151
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.6508

[a] df = 18, not significant at the 0.05 level.

Table 69

Age of Program vs. Consumer Attitude Toward ID Program

Age of Program	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Not operational	33.33%	0.0%	33.33%	0.0%	0.0%	0.0%	33.33%	Lambda = 0.070
6 - 12 months	33.33	33.33	33.33	0.0	0.0	0.0	0.0	L(A1) = 0.0
13 - 24 months	22.22	11.11	55.56	11.11	0.0	0.0	0.0	L(A2) = 0.111
25 - 35 months	0.0	50.00	50.00	0.0	0.0	0.0	0.0	Chi Sq. = 19.811[a]
3 - 5 years	7.14	7.14	57.14	14.29	7.14	0.0	7.14	C = 0.576
6 - 10 years	36.36	18.18	36.36	9.09	0.0	0.0	0.0	G = 0.164
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.7388

[a] df = 24, not significant at the 0.05 level.

Table 70

Age of Program vs. Attitude Toward Different Academic Backgrounds

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0 %	0.0%	66.67 %	0.0 %	33.33 %	0.0%	Lambda = 0.082
6 - 12 months	0.0	0.0	33.33	33.33	33.33	0.0	L(A1) = 0.074
13 - 24 months	0.0	0.0	44.44	55.56	0.0	0.0	L(A2) = 0.088
25 - 35 months	0.0	12.50	25.00	37.50	25.00	0.0	Chi Sq. = 11.389[a]
3 - 5 years	14.29	14.29	42.86	28.57	0.0	0.0	C = 0.445
6 - 10 years	0.0	9.09	36.36	36.36	18.18	0.0	G = -0.099
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.5801

[a] df = 15, not significant at the 0.05 level.

Table 71

Age of Program vs. Preference for Director with Ed. Psych or Media Background

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0 %	0.0 %	0.0 %	66.67 %	0.0 %	33.33 %	Lambda = 0.207
6 - 12 months	0.0	0.0	0.0	0.0	66.67	33.33	L(A1) = 0.208
13 - 24 months	0.0	0.0	22.22	0.0	66.67	11.11	L(A2) = 0.206
25 - 35 months	0.0	0.0	50.00	0.0	25.00	25.00	Chi Sq. = 32.091[a]
3 - 5 years	14.29	7.14	7.14	35.71	28.57	7.14	C = 0.641
6 - 10 years	9.09	9.09	0.0	18.18	63.64	0.0	G = -0.136
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.8422

[a] df = 24, not significant at the 0.05 level.

Table 72

Age of Program vs. Preference of Generalist Approach over Individual or Team Approach

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0 %	0.0 %	0.0%	33.33 %	33.33%	33.33%	Lambda = 0.145
6 - 12 months	0.0	0.0	33.33	33.33	33.33	0.0	L(A1) = 0.111
13 - 24 months	0.0	11.11	33.33	0.0	22.22	33.33	L(A2) = 0.171
25 - 35 months	0.0	0.0	25.00	12.50	25.00	37.50	Chi Sq. = 25.840[a]
3 - 5 years	14.29	0.0	7.14	28.57	50.00	0.0	C = 0.596
6 - 10 years	0.0	9.09	0.0	18.18	63.64	9.09	G = 0.030
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.1827

[a] df = 24, not significant at the 0.05 level.

Table 73

Age of Program vs. Attitude Toward Instructor's Right to Reject Developed Instruction

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	33.33%	0.0%	66.67%	0.0%	0.0%	0.0%	Lambda = 0.054
6 - 12 months	33.33	0.0	33.33	0.0	33.33	0.0	L(A1) = 0.083
13 - 24 months	0.0	33.33	33.33	22.22	11.11	0.0	L(A2) = 0.031
25 - 35 months	0.0	12.50	25.00	27.50	25.00	0.0	Chi Sq. = 17.181[a]
3 - 5 years	0.0	21.43	50.00	21.43	7.14	0.0	C = 0.521
6 - 10 years	9.09	0.0	63.64	9.09	18.18	0.0	G = 0.028
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.1504

[a] df = 18, not significant at the 0.05 level.

Table 74

Age of Program vs. Attitude that Validation is Essential Aspect of ID

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0%	100.00%	0.0%	0.0%	0.0%	0.0%	Lambda = 0.059
6 - 12 months	0.0	66.67	33.33	0.0	0.0	0.0	L(A1) = 0.063
13 - 24 months	0.0	77.78	22.22	0.0	0.0	0.0	L(A2) = 0.057
25 - 35 months	0.0	75.00	12.50	0.0	0.0	12.50	Chi Sq. = 17.520[a]
3 - 5 years	0.0	57.14	28.57	14.29	0.0	0.0	C = 0.513
6 - 10 years	0.0	63.64	18.18	9.09	9.09	0.0	G = 0.281
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.3543

[a] df = 24, not significant at the 0.05 level.

Table 75

Age of Program vs. Attitude that Production is Essential Part of ID

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0%	66.67%	0.0%	33.33%	0.0%	0.0%	Lambda = 0.217
6 - 12 months	0.0	66.67	33.33	0.0	0.0	0.0	L(A1) = 0.320
13 - 24 months	0.0	44.44	55.56	0.0	0.0	0.0	L(A2) = 0.143
25 - 35 months	0.0	62.50	25.00	0.0	0.0	12.50	Chi Sq. = 20.054[a]
3 - 5 years	7.14	57.14	21.43	7.14	0.0	7.14	C = 0.543
6 - 10 years	0.0	18.18	72.73	0.0	0.0	9.09	G = 0.250
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.3964

[a] df = 18, not significant at the 0.05 level.

Table 76

Age of Program vs. Reaction to Suggested ID Definition

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0%	33.33%	66.67%	0.0%	0.0%	0.0%	Lambda = 0.145
6 - 12 months	0.0	0.0	100.00	0.0	0.0	0.0	L(A1) = 0.222
13 - 24 months	0.0	55.56	44.44	0.0	0.0	0.0	L(A2) = 0.086
25 - 35 months	0.0	50.00	25.00	12.50	0.0	12.50	Chi Sq. = 18.940[a]
3 - 5 years	7.14	50.00	28.57	7.14	0.0	7.14	C = 0.532
6 - 10 years	0.0	27.27	45.45	0.0	18.18	9.09	G = 0.137
Over 10 years	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.7773

[a] df = 24, not significant at the 0.05 level.

Table 78

Age of Program vs. Opinion as to Who Should Bear Cost of ID

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0 %	0.0 %	0.0 %	0.0 %	100.00 %	0.0 %	Lambda = 0.169
6 - 12 months	0.0	0.0	0.0	33.33	66.67	0.0	L(A1) = 0.226
13 - 24 months	0.0	22.22	33.33	22.22	22.22	0.0	L(A2) = 0.118
25 - 35 months	12.50	0.0	62.50	12.50	12.50	0.0	Chi Sq. = 32.707[a]
3 - 5 years	7.14	7.14	21.43	28.43	14.29	21.43	C = 0.641
6 - 10 years	0.0	0.0	45.45	36.36	18.18	0.0	G = -0.113
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.7083

[a] df = 24, not significant at the 0.05 level.

Table 79

Age of Program vs. Opinion Regarding Effects of Physical Facilities

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0%	33.33%	0.0%	33.33%	33.33%	0.0%	Lambda = 0.116
6 - 12 months	0.0	0.0	33.33	0.0	66.67	0.0	L(A1) = 0.147
13 - 24 months	0.0	33.33	11.11	22.22	22.22	11.11	L(A2) = 0.086
25 - 35 months	0.0	12.50	37.50	25.00	25.00	0.0	Chi Sq. = 19.387[a]
3 - 5 years	0.0	35.71	14.29	28.57	21.43	0.0	C = 0.532
6 - 10 years	0.0	0.0	27.27	45.45	27.27	0.0	G = 0.006
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.0264

[a] df = 24, not significant at the 0.05 level.

Table 78

Age of Program vs. Opinion as to Who Should Bear Cost of ID

Age of Program	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Not yet operational	0.0 %	0.0 %	0.0 %	0.0 %	100.00 %	0.0 %	Lambda = 0.169
6 - 12 months	0.0	0.0	0.0	33.33	66.67	0.0	L(A1) = 0.226
13 - 24 months	0.0	22.22	33.33	22.22	22.22	0.0	L(A2) = 0.118
25 - 35 months	12.50	0.0	62.50	12.50	12.50	0.0	Chi Sq. = 32.707[a]
3 - 5 years	7.14	7.14	21.43	28.43	14.29	21.43	C = 0.641
6 - 10 years	0.0	0.0	45.45	36.36	18.18	0.0	G = -0.113
Over 10 years	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.7083

[a] df = 24, not significant at the 0.05 level.

Table 80

Age of Program vs. Means of Insuring Use of Developed Instruction

Age of Program	No Response	Admin. Edict	Intern. Checks	Extern. Checks	Vol. or No Cks.	Pre-Screen	Don't Know	Statistical Measures
Not operational	0.0%	33.33%	33.33%	0.0%	33.33%	0.0%	0.0%	Lambda = 0.226
6 - 12 months	0.0	0.0	66.67	0.0	0.0	33.33	0.0	L(A1) = 0.258
13 - 24 months	11.11	11.11	0.0	0.0	22.22	33.33	22.22	L(A2) = 0.194
25 - 35 months	0.0	25.00	12.50	12.50	12.50	27.50	0.0	Chi Sq. = 34.449^a
3 - 5 years	0.0	7.14	50.00	14.29	14.29	14.29	0.0	C = 0.658
6 - 10 years	27.27	0.0	9.09	9.09	9.09	45.45	0.0	G = 0.072
Over 10 years	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.4629

^{a}df = 30, not significant at the 0.05 level.

Table 81

Age of Program vs. Sources of Development Program Personnel

Age of Program	No Response	College/ Univ.	Indiv. Contact	Not Yet Tried	Prof. Orgs.	Other	Statistical Measures
Not operational	33.33%	33.33%	0.0%	0.0%	33.33%	0.0%	Lambda = 0.222
6 - 12 months	33.33	0.0	0.0	0.0	33.33	33.33	L(A1) = 0.200
13 - 24 months	22.22	33.33	0.0	33.33	0.0	11.11	L(A2) = 0.238
25 - 35 months	50.00	0.0	25.00	12.50	0.0	12.50	Chi Sq. = 39.260[a]
3 - 5 years	35.71	42.86	14.29	0.0	7.14	0.0	C = 0.753
6 - 10 years	45.45	45.45	0.0	0.0	0.0	9.09	G = -0.642
Over 10 years	100.00	0.0	0.0	0.0	0.0	0.0	Z = 3.1084

[a] df = 25, not significant at the 0.05 level.

APPENDIX E

CROSS TABULATIONS OF SURVEY DATA AND SIZE OF FACULTY

Table 82

Size of Faculty vs. Learn More About ID in General

Size of Faculty	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Under 50	23.08%	7.69%	0.0%	38.46%	15.38%	15.38%	Lambda = 0.196
50 - 100	0.0	0.0	25.00	50.00	25.00	0.0	L(A1) = 0.240
101 - 250	25.00	50.00	25.00	0.0	0.0	0.0	L(A2) = 0.154
251 - 500	14.29	0.0	28.37	14.29	42.86	0.0	Chi Sq. = 24.419[a]
501 - 1000	33.33	8.33	16.67	16.67	16.67	8.33	C = 0.643
1001 - 2000	0.0	0.0	25.00	25.00	50.00	0.0	G = -0.052
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.2883

[a] df = 24, not significant at 0.05 level.

Table 83

Size of Faculty vs. Learn More About Specific Fields

Size of Faculty	Percent of Programs with the Above Objectives						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Under 50	23.08%	0.0%	30.77%	38.77%	7.69%	0.0%	Lambda = 0.150
50 - 100	0.0	0.0	50.00	25.00	25.00	0.0	L(A1) = 0.118
101 - 250	0.0	0.0	0.0	100.00	0.0	0.0	L(A2) = 0.174
251 - 500	28.57	0.0	14.29	14.29	28.51	14.29	Chi Sq. = 25.157[a]
501 - 1000	41.67	16.67	0.0	25.00	16.67	0.0	C =
1001 - 2000	25.00	0.0	25.00	50.00	0.0	0.0	G = 0.122
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.6193

[a] df = 20, not significant at 0.05 level.

Table 84

Size of Faculty vs. Improve Quality of Instruction

Size of Faculty	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Under 50	7.69%	46.15%	38.46%	0.0%	7.69%	0.0%	Lambda = 0.087
50 - 100	0.0	75.00	0.0	25.00	0.0	0.0	L(A1) = 0.0
101 - 250	0.0	50.00	25.00	0.0	25.00	0.0	L(A2) = 0.133
251 - 500	0.0	57.14	28,37	14.29	0.0	0.0	Chi Sq. = 13.397[a]
501 - 1000	8.33	66.67	8.33	16.67	0.0	0.0	C = 0.492
1001 - 2000	0.0	75.00	25.00	0.0	0.0	0.0	G = -0.194
Over 2000	100.0	0.0	0.0	0.0	0.0	0.0	Z = 0.9667

[a] df = 15, not significant at 0.05 level.

Table 85

Size of Faculty vs. Produce Validated Instruction

Size of Faculty	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Under 50	38.46%	23.08%	23.08%	0.0%	15.38%	0.0%	Lambda = 0.189
50 - 100	50.00	25.00	25.00	0.0	0.0	0.0	L(A1) = 0.176
101 - 250	25.00	0.0	50.00	0.0	25.00	0.0	L(A2) = 0.190
251 - 500	14.29	14.29	28.57	42.86	0.0	0.0	Chi Sq. = 20.125[a]
501 - 1000	16.67	8.33	50.00	8.33	16.67	0.0	C = 0.627
1001 - 2000	75.00	25.00	0.0	0.0	0.0	0.0	G = 0.086
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.4006

[a] df = 18, not significant at 0.05 level.

Table 86

Size of Faculty vs. Other Objectives

Size of Faculty	Percent of Programs with the Above Objective						Statistical Measures
	No Response	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Ranked Fifth	
Under 50	69.23%	15.38%	0.0%	7.69%	7.69%	0.0%	Lambda = 0.643
50 - 100	100.00	0.0	0.0	0.0	0.0	0.0	L(A1) = 0.714
101 - 250	75.00	0.0	0.0	0.0	0.0	25.00	L(A2) = 0.571
251 - 500	71.43	28.57	0.0	0.0	0.0	0.0	Chi Sq. = 24.750[a]
501 - 1000	75.00	0.0	25.00	0.0	0.0	0.0	C = 0.832
1001 - 2000	75.00	0.0	25.00	0.0	0.0	0.0	G = 0.053
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.1476

[a] df = 16, not significant at the 0.05 level.

Table 87

Size of Faculty vs. Tangible ID Products

Size of Faculty	Percent of ID Programs with the Above Feature						Statistical Measures
	No Response	Yes	No	Usually	Sometimes	Unknown	
Under 50	0.0%	84.62 %	0.0%	7.69%	7.69%	0.0%	Lambda = 0.095
50 - 100	0.0	75.00	25.00	0.0	0.0	0.0	L(A1) = 0.0
101 - 250	0.0	100.00	0.0	0.0	0.0	0.0	L(A2) = 0.125
251 - 500	0.0	71.43	0.0	14.29	0.0	14.29	Chi Sq. = 26.509[a]
501 - 1000	0.0	66.67	8.33	8.33	16.67	0.0	C = 0.609
1001 - 2000	0.0	75.00	0.0	0.0	0.0	25.00	G = 0.273
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	Z = 1.0789

[a] df = 30, not significant at 0.05 level.

Table 88

Size of Faculty vs. Products Available to Others

Size of Faculty	Percent of ID Programs with the Above Feature						Statistical Measures
	No Response	Yes	No	Usually	Sometimes	Unknown	
Under 50	0.0%	61.54%	23.08%	0.0%	7.69%	7.69%	Lambda = 0.096
50 - 100	0.0	50.00	50.00	0.0	0.0	0.0	L(A1) = 0.0
101 - 250	0.0	75.00	25.00	0.0	0.0	0.0	L(A2) = 0.156
251 - 500	0.0	57.14	28.57	0.0	0.0	14.29	Chi Sq. = 17.269[a]
501 - 1000	0.0	33.33	8.33	8.33	16.67	33.33	C = 0.527
1001 - 2000	0.0	75.00	25.00	0.0	0.0	0.0	G = 0.161
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.8611

[a] df = 30, not significant at 0.05 level.

Table 89

Size of Faculty vs. Emphasis on

Size of Faculty	Theoretical Base or Finished Product						Statistical Measures
	No Response	1	2	3	4	5	
Under 50	7.69%	7.69%	0.0%	7.69%	46.15%	30.77%	Lambda = 0.184
50 - 100	0.0	0.0	0.0	25.00	75.00	0.0	L(A1) = 0.158
101 - 250	50.00	0.0	0.0	25.00	25.00	0.0	L(A2) = 0.200
251 - 500	0.0	0.0	14.29	14.29	57.14	14.29	Chi Sq. = 24.271^a
501 - 1000	0.0	0.0	16.67	8.33	75.00	0.0	C = 0.605
1001 - 2000	0.0	0.0	25.00	50.00	0.0	25.00	G = 0.335
Over 2000	0.0	0.0	0.0	100.00	0.0	0.0	Z = 1.8270

^{a}df = 24, not significant at 0.05 level.

Table 90

Size of Faculty vs. Procedural Approaches

Size of Faculty	Evolving or Well Defined						Statistical Measures
	No Response	1	2	3	4	5	
Under 50	0.0%	7.69%	7.69%	38.46%	23.08%	23.08%	Lambda = 0.190
50 - 100	0.0	0.0	50.00	25.00	0.0	25.00	L(A1) = 0.226
101 - 250	0.0	25.00	0.0	75.00	0.0	0.0	L(A2) = 0.156
251 - 500	0.0	0.0	42.86	28.57	28.57	0.0	Chi Sq. = 25.314[a]
501 - 1000	0.0	8.33	33.33	8.33	41.67	8.33	C = 0.600
1001 - 2000	0.0	0.0	50.00	50.00	0.0	0.0	G = -0.198
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.2503

[a] df = 24, not significant at 0.05 level.

Table 91

Size of Faculty vs. Having

Size of Faculty	No Response	Strict Procedures or Innovative Atmosphere					Statistical Measures
		1	2	3	4	5	
Under 50	7.69%	0.0%	15.38%	7.69%	46.15%	23.08%	Lambda = 0.158
50 - 100	0.0	0.0	50.00	0.0	25.00	25.00	L(A1) = 0.160
101 - 250	0.0	0.0	0.0	50.00	25.00	25.00	L(A2) = 0.156
251 - 500	0.0	0.0	14.29	0.0	57.14	28.57	Chi Sq. = 20.976[a]
501 - 1000	0.0	0.0	0.0	50.00	33.33	16.67	C = 0.568
1001 - 2000	0.0	0.0	0.0	50.00	50.00	0.0	G = -0.113
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.6698

[a] df = 18, not significant at the 0.05 level.

Table 92

Size of Faculty vs. Validation

Size of Faculty	No Response	Consistently Done or Infreq. Attempted					Statistical Measures
		1	2	3	4	5	
Under 50	0.0%	30.67%	38.46%	0.0%	23.08%	7.69%	Lambda = 0.082
50 - 100	0.0	25.00	25.00	0.0	25.00	25.00	L(A1) = 0.034
101 - 250	0.0	25.00	50.00	25.00	0.0	0.0	L(A2) = 0.125
251 - 500	0.0	14.29	28.57	28.57	28.57	0.0	Chi Sq. = 17.800[a]
501 - 1000	0.0	16.67	25.00	33.33	25.00	0.0	C = 0.532
1001 - 2000	0.0	0.0	50.00	25.00	0.0	25.00	G = 0.159
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.0005

[a] df = 24, not significant at the 0.05 level.

Table 93

Size of Faculty vs. Media Produced

Size of Faculty	No Response	Consistent High Quality or Backing Prod. Capability					Statistical Measures
		1	2	3	4	5	
Under 50	0.0%	7.69%	23.08%	61.54%	7.69%	0.0%	Lambda = 0.224
50 - 100	0.0	25.00	25.00	0.0	50.00	0.0	L(A1) = 0.296
101 - 250	0.0	25.00	25.00	50.00	0.0	0.0	L(A2) = 0.161
251 - 500	0.0	14.29	57.14	28.57	0.0	0.0	Chi Sq. = 29.203[a]
501 - 1000	8.33	8.33	50.00	25.00	8.33	0.0	C = 0.632
1001 - 2000	0.0	0.0	25.00	50.00	0.0	25.00	G = -0.077
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.4464

[a] df = 24, not significant at the 0.05 level.

Table 94

Size of Faculty vs. Readiness

Size of Faculty	No Response	Ready or Still Tooling Up					Statistical Measures
		1	2	3	4	5	
Under 50	7.69%	15.38%	23.08%	38.46%	7.69%	7.69%	Lambda = 0.238
50 - 100	0.0	0.0	25.00	0.0	0.0	75.00	L(A1) = 0.250
101 - 250	0.0	25.00	25.00	25.00	25.00	0.0	L(A2) = 0.226
251 - 500	0.0	0.0	14.29	28.57	57.14	0.0	Chi Sq. = 30.192[a]
501 - 1000	8.33	33.33	8.33	25.00	8.33	16.67	C = 0.642
1001 - 2000	0.0	25.00	25.00	0.0	25.00	25.00	G = -0.005
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.0222

[a] df = 24, not significant at the 0.05 level.

Table 95

Size of Faculty vs. Organizational Chart

Size of Faculty	Percent of Programs with the Above Item						Statistical Measures
	No Response	Attached	Sketched	In Prep.	Non-Ext.	Not App.	
Under 50	38.46%	7.69%	53.85%	0.0%	0.0%	0.0%	Lambda = 0.086
50 - 100	0.0	0.0	75.00	0.0	0.0	25.00	L(A1) = 0.0
101 - 250	0.0	25.00	75.00	0.0	0.0	0.0	L(A2) = 0.120
251 - 500	28.57	14.29	57.14	0.0	0.0	0.0	Chi Sq. = 11.281[a]
501 - 1000	33.33	16.67	33.33	8.33	0.0	8.33	C = 0.505
1001 - 2000	25.00	25.00	25.00	0.0	0.0	25.00	G = -0.221
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.7267

[a] df = 18, not significant at the 0.05 level.

Table 96

Size of Faculty vs. Institutional Relationship

Size of Faculty	Percent of Programs with the Above Item						Statistical Measures
	No Response	Attached	Sketched	In Prep.	Non-Ext.	Not App.	
Under 50	30.77 %	7.69%	46.15%	7.69%	0.0%	7.69%	Lambda = 0.080
50 - 100	0.0	25.00	50.00	0.0	0.0	25.00	L(A1) = 0.0
101 - 250	75.00	0.0	25.00	0.0	0.0	0.0	L(A2) = 0.105
251 - 500	57.14	14.29	14.29	0.0	14.29	0.0	Chi Sq. = 16.000[a]
501 - 1000	41.67	16.67	41.67	0.0	0.0	0.0	C = 0.603
1001 - 2000	25.00	25.00	50.00	0.0	0.0	0.0	G = -0.277
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.9513

[a] df = 24, not significant at the 0.05 level.

Table 97

Size of Faculty vs. Units Started

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	0.0%	53.85%	7.69%	7.69%	15.38%	15.38%	Lambda = 0.191
50 - 100	50.00	25.00	25.00	0.0	0.0	0.0	L(A1) - 0.227
101 - 250	0.0	50.00	0.0	25.00	25.00	0.0	L(A2) = 0.160
251 - 500	14.29	42.86	28.57	0.0	0.0	14.29	Chi Sq. = 24.975[a]
501 - 1000	33.33	8.33	0.0	16.67	33.33	8.33	C = 0.630
1001 - 2000	0.0	25.00	0.0	0.0	75.00	0.0	G = 0.474
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	Z = 2.4449

[a] df = 24, not significant at the 0.05 level.

Table 98

Size of Faculty vs. Units into Production

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	7.69%	38.46%	7.69%	7.69%	23.08%	15.38%	Lambda = 0.106
50 - 100	50.00	25.00	0.0	0.0	25.00	0.0	L(A1) = 0.174
101 - 250	25.00	25.00	0.0	25.00	25.00	0.0	L(A2) = 0.042
251 - 500	14.29	42.86	14.29	14.29	0.0	14.29	Chi Sq. = 14.108[a]
501 - 1000	33.33	16.67	0.0	16.67	25.00	8.33	C = 0.531
1001 - 2000	0.0	25.00	0.0	0.0	75.00	0.0	G = 0.259
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.2358

[a] df = 24, not significant at the 0.05 level.

Table 99

Size of Faculty vs. Units Completed

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	7.69%	30.77%	7.69%	0.0%	38.46%	15.38%	Lambda = 0.156
50 - 100	50.00	25.00	0.0	0.0	25.00	0.0	L(A1) = 0.182
101 - 250	25.00	50.00	0.0	25.00	0.0	0.0	L(A2) = 0.130
251 - 500	14.29	42.86	14.29	0.0	14.29	14.29	Chi Sq. = 18.799[a]
501 - 1000	33.33	8.33	0.0	25.00	25.00	8.33	C = 0.591
1001 - 2000	0.0	25.00	0.0	0.0	75.00	0.0	G = 0.191
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.9045

[a] df = 20, not significant at the 0.05 level.

Table 100

Size of Faculty vs. Units Validated

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	30.77%	15.38%	7.69%	0.0%	30.77%	15.38%	Lambda = 0.171
50 - 100	50.00	25.00	0.0	0.0	25.00	0.0	L(A1) = 0.176
101 - 250	50.00	25.00	0.0	25.00	0.0	0.0	L(A2) = 0.167
251 - 500	14.29	42.86	14.29	0.0	14.29	14.29	Chi Sq. = 15.212[a]
501 - 1000	41.67	16.67	0.0	16.67	25.00	0.0	C = 0.600
1001 - 2000	75.00	0.0	0.0	0.0	25.00	0.0	G = 0.039
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.1432

[a] df = 20, not significant at the 0.05 level.

Table 101

Size of Faculty vs. Units Used at Institution

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	23.08%	30.77%	7.69%	0.0%	23.08%	15.38%	Lambda = 0.189
50 - 100	25.00	50.00	0.0	0.0	25.00	0.0	L(A1) = 0.222
101 - 250	50.00	25.00	0.0	25.00	0.0	0.0	L(A2) = 0.158
251 - 500	14.29	42.86	14.29	0.0	14.29	14.29	Chi Sq. = 17.673[a]
501 - 1000	41.67	8.33	0.0	16.67	33.33	0.0	C = 0.615
1001 - 2000	75.00	0.0	0.0	0.0	25.00	0.0	G = 0.348
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 1.5003

[a] df = 20, not significant at the 0.05 level.

Table 102

Size of Faculty vs. Units Used by Others

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	30.77%	7.69%	7.69%	7.69%	30.77%	15.38%	Lambda = 0.069
50 - 100	50.00	25.00	0.0	0.0	25.00	0.0	L(A1) = 0.077
101 - 250	50.00	25.00	0.0	25.00	0.0	0.0	L(A2) = 0.063
251 - 500	42.86	14.29	0.0	0.0	28.57	14.29	Chi Sq. = 13.533[a]
501 - 1000	41.67	0.0	8.33	16.67	33.33	0.0	C = 0.593
1001 - 2000	75.00	0.0	0.0	0.0	25.00	0.0	G = 0.176
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.6557

[a] df = 20, not significant at the 0.05 level.

Table 103

Size of Faculty vs. Completeness of Process

Size of Faculty	Trends of the Above Characteristic by Percent						Statistical Measures
	No Response	Increase	Decrease	About The Same	Can't Tell	Not App.	
Under 50	15.38%	7.69 %	7.69%	38.46%	23.08 %	7.69%	Lambda = 0.132
50 - 100	50.00	25.00	0.0	0.0	25.00	0.0	L(A1) = 0.211
101 - 250	75.00	0.0	0.0	25.00	0.0	0.0	L(A2) = 0.053
251 - 500	28.57	28.57	14.29	0.0	28.57	0.0	Chi Sq. = 15.455[a]
501 - 1000	41.67	8.33	0.0	25.00	16.67	8.33	C = 0.583
1001 - 2000	0.0	25.00	0.0	0.0	75.00	0.0	G = 0.111
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.5002

[a] df = 20, not significant at the 0.05 level.

Table 104

Size of Faculty vs. Number of Ph.D.'s Needed

Size of Faculty	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Under 50	53.85%	30.77%	0.0%	0.0%	15.38%	0.0%	Lambda = 0.250
50 - 100	100.00	0.0	0.0	0.0	0.0	0.0	L(A1) = 0.375
101 - 250	75.00	0.0	0.0	25.00	0.0	0.0	L(A2) = 0.167
251 - 500	42.86	42.86	0.0	14.29	0.0	0.0	Chi Sq. = 15.000[a]
501 - 1000	66.67	8.33	0.0	0.0	25.00	0.0	C = 0.674
1001 - 2000	50.00	25.00	0.0	25.00	0.0	0.0	G = 0.194
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.6382

[a] df = 10, not significant at the 0.05 level.

Table 105

Size of Faculty vs. Number of Ed.D.'s Needed

Size of Faculty	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Under 50	69.23%	15.38%	0.0%	7.69 %	7.69%	0.0%	Lambda = 0.136
50 - 100	25.00	0.0	0.0	50.00	25.00	0.0	L(A1) = 0.125
101 - 250	75.00	0.0	0.0	25.00	0.0	0.0	L(A2) = 0.143
251 - 500	57.14	14.29	.0	28.57	0.0	0.0	Chi Sq. = 11.074[a]
501 - 1000	33.33	0.0	0.0	41.67	25.00	0.0	C = 0.579
1001 - 2000	25.00	0.0	0.0	75.00	0.0	0.0	G = 0.243
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.8332

[a] df = 10, not significant at the 0.05 level.

Table 106

Size of Faculty vs. Number of MA/MS's Needed

Size of Faculty	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Under 50	53.85%	7.69 %	0.0 %	23.08%	15.38%	0.0%	Lambda = 0.200
50 - 100	25.00	50.00	0.0	0.0	25.00	0.0	L(A1) = 0.273
101 - 250	75.00	25.00	0.0	0.0	0.0	0.0	L(A2) = 0.143
251 - 500	42.86	28.57	0.0	28.57	0.0	0.0	Chi Sq. = 9.578[a]
501 - 1000	58.33	25.00	0.0	8.33	8.33	0.0	C = 0.569
1001 - 2000	100.00	0.0	0.0	0.0	0.0	0.0	G = -0.356
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.2354

[a] df = 10, not significant at the 0.05 level.

Table 107

Size of Faculty vs. Number of BA/BS's Needed

Size of Faculty	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Under 50	84.64%	7.69%	0.0%	0.0%	7.69%	0.0%	Lambda = 0.0
50 - 100	100.00	0.0	0.0	0.0	0.0	0.0	L(A1) = 0.0
101 - 250	75.00	25.00	0.0	0.0	0.0	0.0	L(A2) = 0.0
251 - 500	71.43	14.29	0.0	14.29	0.0	0.0	Chi Sq. = 3.333[a]
501 - 1000	75.00	8.33	0.0	8.33	8.33	0.0	C = 0.542
1001 - 2000	100.00	0.0	0.0	0.0	0.0	0.0	G = 0.200
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.3847

[a] df = 6, not significant at the 0.05 level.

Table 108

Size of Faculty vs. Number with Less Than BS/BA

Size of Faculty	Percent of Programs Where the Above is Expected to						Statistical Measures
	No Response	Increase	Decrease	Remain The Same	Can't Tell	Not App.	
Under 50	84.62%	7.69%	0.0%	0.0%	7.69%	0.0%	Lambda = 0.333
50 - 100	75.00	0.0	0.0	0.0	25.00	0.0	L(A1) = 0.500
101 - 250	75.00	0.0	0.0	25.00	0.0	0.0	L(A2) = 0.200
251 - 500	71.43	14.29	0.0	14.29	0.0	0.0	Chi Sq. = 7.583[a]
501 - 1000	91.67	0.0	0.0	0.0	8.33	0.0	C = 0.721
1001 - 2000	100.00	0.0	0.0	0.0	0.0	0.0	G = 0.0
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.6793

[a] df = 8, not significant at the 0.05 level.

Table 109

Size of Faculty vs. Director Control over Participating Faculty

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	15.38%	7.69%	7.69%	23.08%	23.08%	23.08%	0.0%	Lambda = 0.131
50 - 100	0.0	25.00	0.0	25.00	25.00	0.0	25.00	L(A1) = 0.129
101 - 250	0.0	0.0	0.0	50.00	25.00	25.00	0.0	L(A2) = 0.133
251 - 500	0.0	0.0	28.57	28.57	28.57	0.0	14.29	Chi Sq. = 22.753[a]
501 - 1000	16.67	8.33	16.67	0.0	16.67	16.67	25.00	C = 0.597
1001 - 2000	0.0	0.0	0.0	50.00	0.0	25.00	25.00	G = -0.056
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.3012

[a] df = 30, not significant at the 0.05 level.

Table 110

Size of Faculty vs. Director Control over Project Selection

Size of Faculty	No Response	None to Advisory to Autonomy 1	2	3	4	5	Not App.	Statistical Measures
Under 50	7.69%	0.0%	7.69%	7.69%	30.77%	38.46%	7.69%	Lambda = 0.148
50 - 100	0.0	25.00	0.0	25.00	0.0	25.00	25.00	L(A1) = 0.200
101 - 250	0.0	0.0	0.0	25.00	50.00	25.00	0.0	L(A2) = 0.097
251 - 500	0.0	0.0	0.0	28.57	57.14	0.0	14.29	Chi Sq. = 27.369[a]
501 - 1000	8.33	0.0	8.33	8.33	25.00	33.33	16.67	C = 0.624
1001 - 2000	0.0	0.0	0.0	25.00	0.0	50.00	25.00	G = 0.022
Over 2000	0.0	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.1052

[a] df = 30, not significant at the 0.05 level.

Table III

Size of Faculty vs. Director Control over Project Approach

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures		
		1	2	3	4	5				
Under 50	7.69%	0.0%	15.38%	15.38%	30.77%	30.77%	0.0%	Lambda	=	0.107
50 - 100	0.0	25.00	0.0	25.00	0.0	25.00	25.00	L(A1)	=	0.107
101 - 250	0.0	0.0	0.0	25.00	25.00	50.00	0.0	L(A2)	=	0.107
251 - 500	0.0	0.0	0.0	42.86	42.86	0.0	14.29	Chi Sq.	=	24.665[a]
501 - 1000	33.33	0.0	8.33	8.33	16.67	25.00	8.33	C	=	0.618
1001 - 2000	0.0	0.0	0.0	25.00	25.00	25.00	25.00	G	=	0.036
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z	=	0.1855

[a] df = 30, not significant at the 0.05 level.

Table 112

Size of Faculty vs. Director Control over Media Selection

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	0.0%	0.0%	7.69%	30.77%	30.77%	30.77%	0.0%	Lambda = 0.121
50 - 100	0.0	25.00	0.0	25.00	25.00	25.00	0.0	L(A1) = 0.138
101 - 250	0.0	0.0	0.0	25.00	25.00	50.00	0.0	L(A2) = 0.103
251 - 500	0.0	0.0	14.29	42.86	14.29	14.29	14.29	Chi Sq. = 25.075[a]
501 - 1000	18.18	0.0	0.0	9.09	36.36	18.18	18.18	C = 0.611
1001 - 2000	0.0	0.0	0.0	50.00	25.00	0.0	25.00	G = -0.049
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.2560

[a] df = 30, not significant at the 0.05 level.

Table 113

Size of Faculty vs. Director Control over Media Production

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	7.69%	0.0%	7.69%	15.38%	23.08%	46.15%	0.0%	Lambda = 0.100
50 - 100	25.00	0.0	0.0	0.0	25.00	25.00	25.00	L(A1) = 0.087
101 - 250	0.0	0.0	0.0	0.0	25.00	75.00	0.0	L(A2) = 0.111
251 - 500	0.0	14.29	14.29	28.57	0.0	28.57	14.29	Chi Sq. = 23.523[a]
501 - 1000	33.33	0.0	0.0	8.33	16.67	25.00	16.67	C = 0.613
1001 - 2000	0.0	0.0	0.0	50.00	25.00	25.00	0.0	C = -0.145
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.7247

[a] df = 30, not significant at the 0.05 level.

Table 114

Size of Faculty vs. Director Control over Validation

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	15.38%	7.69%	15.38%	23.08%	7.69%	30.77%	0.0%	Lambda = 0.130
50 - 100	0.0	25.00	0.0	25.00	0.0	25.00	25.00	L(A1) = 0.115
101 - 250	0.0	0.0	0.0	25.00	25.00	50.00	0.0	L(A2) = 0.143
251 - 500	0.0	0.0	14.29	57.14	0.0	14.29	14.29	Chi Sq. = 24.335[a]
501 - 1000	33.33	0.0	0.0	25.00	25.00	8.33	8.33	C = 0.620
1001 - 2000	0.0	25.00	0.0	25.00	25.00	0.0	25.00	G = -0.053
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.2734

[a] df = 30, not significant at the 0.05 level.

Table 115

Size of Faculty vs. Director Control over Utilization

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	15.38%	0.0%	7.69%	30.77%	15.38%	30.77%	0.0%	Lambda = 0.143
50 - 100	0.0	50.00	0.0	25.00	0.0	0.0	25.00	L(A1) = 0.148
101 - 250	0.0	0.0	0.0	25.00	50.00	25.00	0.0	L(A2) = 0.138
251 - 500	0.0	0.0	14.29	42.86	14.29	14.29	14.29	Chi Sq. = 37.362[a]
501 - 1000	25.00	0.0	0.0	25.00	16.67	16.67	16.67	C = 0.695
1001 - 2000	0.0	0.0	0.0	25.00	25.00	50.00	0.0	G = 0.128
Over 2000	0.0	0.0	0.0	0.0	0.0	0.0	100.00	Z = 0.6900

[a] df = 30, not significant at the 0.05 level.

Table 116

Size of Faculty vs. Control Director Should Have Over Participating Faculty

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	38.46%	0.0%	0.0%	30.77%	7.69%	23.08%	0.0%	Lambda = 0.178
50 - 100	25.00	50.00	0.0	0.0	25.00	0.0	0.0	L(A1) = 0.154
101 - 250	25.00	0.0	0.0	25.00	50.00	0.0	0.0	L(A2) = 0.154
251 - 500	0.0	0.0	14.29	28.57	28.57	14.29	14.29	Chi Sq. = 27.260[a]
501 - 1000	16.67	16.67	8.33	8.33	16.67	16.67	16.67	C = 0.656
1001 - 2000	0.0	25.00	0.0	25.00	25.00	0.0	25.00	G = 0.168
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.9046

[a] df = 30, not significant at the 0.05 level.

Table 117

Size of Faculty vs. Control Director Should Have Over Project Selection

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	38.46%	0.0%	0.0%	7.69%	30.77%	23.08%	0.0%	Lambda = 0.191
50 - 100	25.00	25.00	0.0	0.0	25.00	0.0	25.00	L(A1) = 0.182
101 - 250	25.00	0.0	0.0	50.00	25.00	0.0	0.0	L(A2) = 0.200
251 - 500	14.29	0.0	0.0	42.86	28.57	14.29	0.0	Chi Sq. = 28.909[a]
501 - 1000	25.00	0.0	0.0	16.67	16.67	16.67	25.00	C = 0.678
1001 - 2000	0.0	0.0	0.0	0.0	25.00	25.00	50.00	G = -0.005
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.0074

[a] df = 24, not significant at the 0.05 level.

Table 118

Size of Faculty vs. Control Director Should Have Over Project Approach

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	23.08%	0.0%	0.0%	30.77%	30.77%	15.38%	0.0%	Lambda = 0.120
50 - 100	25.00	25.00	0.0	25.00	0.0	0.0	25.00	L(A1) = 0.130
101 - 250	25.00	0.0	0.0	25.00	0.0	50.00	0.0	L(A2) = 0.111
251 - 500	0.0	0.0	0.0	28.57	42.86	14.29	14.29	Chi Sq. = 25.828[a]
501 - 1000	25.00	0.0	0.0	8.33	33.33	25.00	8.33	C = 0.641
1001 - 2000	0.0	0.0	0.0	25.00	50.00	0.0	25.00	G = 0.158
Over 2000	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.7688

[a] df = 24, not significant at the 0.05 level.

Table 119

Size of Faculty vs. Control Director Should Have Over Media Selection

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	50.00%	0.0%	0.0%	25.00%	0.0%	25.00%	0.0%	Lambda = 0.143
50 - 100	23.08	0.0	7.69	30.77	23.08	7.69	7.69	L(A1) = 0.174
101 - 250	25.00	25.00	0.0	25.00	0.0	0.0	25.00	L(A2) = 0.115
251 - 500	25.00	0.0	0.0	50.00	25.00	0.0	0.0	Chi Sq. = 29.204[a]
501 - 1000	0.0	0.0	14.29	42.86	14.29	14.29	14.29	C = 0.669
1001 - 2000	33.33	0.0	0.0	8.33	33.33	8.33	16.67	G = 0.233
Over 2000	0.0	0.0	0.0	50.00	0.0	25.00	25.00	Z = 1.1001

[a] df = 30, not significant at the 0.05 level.

Table 120

Size of Faculty vs. Control Director Should Have Over Media Production

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	30.77%	7.69%	0.0%	23.08%	23.08%	15.38%	0.0%	Lambda = 0.184
50 - 100	25.00	25.00	0.0	0.0	25.00	0.0	25.00	L(A1) = 0.174
101 - 250	0.0	0.0	0.0	25.00	25.00	50.00	0.0	L(A2) = 0.192
251 - 500	0.0	0.0	14.29	42.86	0.0	28.57	14.29	Chi Sq. = 27.384[a]
501 - 1000	33.33	0.0	0.0	0.0	16.67	33.33	16.67	C = 0.663
1001 - 2000	25.00	0.0	0.0	50.00	0.0	25.00	0.0	G = 0.218
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 1.1011

[a] df = 30, not significant at the 0.05 level.

Table 121

Size of Faculty vs. Control Director Should Have Over Validation

Size of Faculty	No Response	None to Advisory to Autonomy 1	2	3	4	5	Not App.	Statistical Measures
Under 50	38.46%	7.69%	0.0%	15.38%	15.38%	23.08%	0.0%	Lambda = 0.235
50 - 100	0.0	0.0	25.00	25.00	0.0	25.00	25.00	L(A1) = 0.280
101 - 250	25.00	0.0	0.0	0.0	25.00	50.00	25.00	L(A2) = 0.192
251 - 500	14.29	0.0	14.29	42.86	0.0	28.57	0.0	Chi Sq. = 27.444[a]
501 - 1000	25.00	0.0	0.0	16.67	41.67	8.33	8.33	C = 0.663
1001 - 2000	0.0	0.0	0.0	50.00	25.00	0.0	25.00	G = -0.107
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.5511

[a] df = 30, not significant at the 0.05 level.

Table 122

Size of Faculty vs. Control Director Should Have Over Utilization

Size of Faculty	No Response	None to Advisory to Autonomy					Not App.	Statistical Measures
		1	2	3	4	5		
Under 50	30.77%	0.0%	0.0%	30.77%	23.08%	15.38%	0.0%	Lambda = 0.143
50 - 100	25.00	25.00	25.00	0.0	0.0	0.0	25.00	L(A1) = 0.190
101 - 250	25.00	0.0	0.0	50.00	25.00	0.0	0.0	L(A2) = 0.167
251 - 500	14.29	0.0	0.0	28.57	42.86	14.29	0.0	Chi Sq. = 39.636[a]
501 - 1000	41.67	0.0	0.0	16.67	25.00	0.0	16.67	C = 0.739
1001 - 2000	0.0	0.0	0.0	50.00	25.00	0.0	25.00	G = -0.029
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.1166

[a] df = 30, not significant at the 0.05 level.

Table 123

Size of Faculty vs. Changes in Administrative Organization

Size of Faculty	No Response	Up Graded	Down Graded	Toward Acad. Emph.	From Acad. Emph.	Prod. Capab. Added	None	Not App.	Statistical Measures
Under 50	0.0%	0.0%	8.33%	16.67%	0.0%	0.0%	66.67%	8.33%	Lambda = 0.200
50 - 100	0.0	0.0	0.0	25.00	0.0	0.0	25.00	50.00	L(A1) = 0.222
101 - 250	0.0	25.00	0.0	50.00	0.0	25.00	0.0	0.0	L(A2) = 0.185
251 - 500	0.0	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Chi Sq. = 41.389[a]
501 - 1000	0.0	18.18	0.0	0.0	9.09	9.09	54.55	9.09	C = 0.718
1001 - 2000	50.00	25.00	0.0	0.0	0.0	0.0	25.00	0.0	G = -0.088
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	0.0	0.0	Z = 0.4121

[a] df = 36, not significant at the 0.05 level.

Table 124

Size of Faculty vs. Changes in Program Strategy

Size of Faculty	No Response	More Sophisticated	More Flexible	Valid. Added	Design Added	Present Tech. Changed	None	Not App.	Statistical Measures
Under 50	0.0 %	0.0 %	0.0 %	0.0%	30.00%	30.00%	40.00%	0.0%	Lambda = 0.283
50 - 100	0.0	0.0	0.0	0.0	0.0	0.0	25.00	75.00	L(A1) = 0.259
101 - 250	25.00	25.00	0.0	0.0	25.00	0.0	25.00	0.0	L(A2) = 0.308
251 - 500	0.0	16.67	50.00	0.0	0.0	16.67	16.67	0.0	Chi Sq. = 51.700[a]
501 - 1000	20.00	10.00	30.00	0.0	10.00	10.00	10.00	10.00	C = 0.768
1001 - 2000	0.0	25.00	0.0	25.00	25.00	0.0	25.00	0.0	G = -0.370
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	0.0	0.0	Z = 2.0552

[a] df = 36, not significant at the 0.04 level.

Table 125

Size of Faculty vs. Insufficient Funds

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	30.77%	30.77%	23.08%	7.69%	7.69%	0.0%	Lambda = 0.045
50 - 100	0.0	25.00	50.00	0.0	25.00	0.0	L(A1) = 0.111
101 - 250	25.00	50.00	0.0	0.0	25.00	0.0	L(A2) = 0.0
251 - 500	14.29	57.14	14.29	14.29	0.0	0.0	Chi Sq. = 10.385[a]
501 - 1000	33.33	33.33	25.00	0.0	8.33	0.0	C = 0.478
1001 - 2000	0.0	50.00	25.00	0.0	25.00	0.0	G = -0.079
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.3827

[a] df = 18, not significant at the 0.05 level.

Table 126

Size of Faculty vs. Lack of Qualified Personnel

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	30.77%	30.77%	23.08%	7.69%	7.69%	0.0%	Lambda = 0.186
50 - 100	0.0	25.00	75.00	0.0	0.0	0.0	L(A1) = 0.158
101 - 250	0.0	25.00	25.00	25.00	0.0	25.00	L(A2) = 0.208
251 - 500	42.86	0.0	14.29	28.57	14.29	0.0	Chi Sq. = 25.645[a]
501 - 1000	25.00	16.67	41.67	0.0	16.67	0.0	C = 0.661
1001 - 2000	25.00	0.0	25.00	0.0	50.00	0.0	G = -0.321
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 1.7148

[a] df = 24, not significant at the 0.05 level.

Table 127

Size of Faculty vs. Information Regarding ID Process

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	15.38%	7.69%	38.46%	15.38%	23.08%	0.0%	Lambda = 0.171
50 - 100	25.00	0.0	0.0	0.0	75.00	0.0	L(A1) = 0.316
101 - 250	25.00	0.0	50.00	25.00	0.0	0.0	L(A2) = 0.045
251 - 500	28.57	0.0	28.57	28.57	14.29	0.0	Chi Sq. = 21.600[a]
501 - 1000	41.67	8.33	0.0	16.67	33.33	0.0	C = 0.629
1001 - 2000	25.00	0.0	0.0	0.0	75.00	0.0	G = -0.383
Over 2000	0.0	0.0	0.0	100.00	0.0	0.0	Z = 1.9140

[a] df = 18, not significant at the 0.05 level.

Table 128

Size of Faculty vs. Information Regarding ID Implementation

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	15.38%	7.69%	23.08%	38.46%	15.38%	0.0%	Lambda = 0.205
50 - 100	25.00	0.0	0.0	25.00	50.00	0.0	L(A1) = 0.316
101 - 250	50.00	0.0	25.00	25.00	0.0	0.0	L(A2) = 0.100
251 - 500	28.57	0.0	14.29	42.86	14.29	0.0	Chi Sq. = 13.106[a]
501 - 1000	41.67	0.0	8.33	16.67	33.33	0.0	C = 0.545
1001 - 2000	25.00	0.0	0.0	0.0	75.00	0.0	G = -0.494
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 2.3403

[a] df = 15, not significant at the 0.05 level.

Table 129

Size of Faculty vs. Lack of Interest

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	25.00 %	25.00%	25.00%	25.00%	0.0 %	0.0%	Lambda = 0.200
50 - 100	23.08	0.0	30.77	46.15	0.0	0.0	L(A1) = 0.167
101 - 250	25.00	0.0	25.00	0.0	50.00	0.0	L(A2) = 0.227
251 - 500	50.00	0.0	25.00	25.00	0.0	0.0	Chi Sq. = 24.489[a]
501 - 1000	28.57	14.29	42.86	0.0	14.29	0.0	C = 0.658
1001 - 2000	33.33	25.00	25.00	16.67	0.0	0.0	G = -0.408
Over 2000	0.0	25.00	50.00	25.00	0.0	0.0	Z = 2.0724

[a] df = 15, not significant at the 0.05 level.

Table 130

Size of Faculty vs. Physical Plant Facilities

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	38.46%	0.0%	46.15%	7.69%	0.0%	7.69%	Lambda = 0.189
50 - 100	25.00	25.00	25.00	0.0	0.0	25.00	L(A1) = 0.133
101 - 250	25.00	25.00	25.00	25.00	0.0	0.0	L(A2) = 0.227
251 - 500	14.29	0.0	42.86	14.29	28.57	0.0	Chi Sq. = 30.786[a]
501 - 1000	50.00	0.0	16.67	25.00	0.0	8.33	C = 0.712
1001 - 2000	25.00	0.0	50.00	25.00	0.0	0.0	G = 0.172
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.8223

[a] df = 24, not significant at the 0.05 level.

Table 131

Size of Faculty vs. Lacking Administrative Support

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	38.46%	23.08%	15.38%	7.69%	15.38%	0.0%	Lambda = 0.262
50 - 100	25.00	0.0	50.00	25.00	0.0	0.0	L(A1) = 0.333
101 - 250	50.00	0.0	0.0	0.0	50.00	0.0	L(A2) = 0.190
251 - 500	28.57	0.0	14.29	42.86	14.29	0.0	Chi Sq. = 24.697[a]
501 - 1000	41.67	0.0	25.00	8.33	16.67	8.33	C = 0.678
1001 - 2000	0.0	0.0	0.0	50.00	25.00	25.00	G = -0.409
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 2.1370

[a] df = 20, not significant at the 0.05 level.

Table 132

Size of Faculty vs. Lacking Production Capability

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	30.77 %	0.0%	46.15%	15.38 %	7.69 %	0.0%	Lambda = 0.119
50 - 100	25.00	0.0	25.00	25.00	25.00	0.0	L(A1) = 0.056
101 - 250	50.00	0.0	25.00	0.0	25.00	0.0	L(A2) = 0.167
251 - 500	14.29	0.0	28.57	42.86	14.29	0.0	Chi Sq. = 11.675[a]
501 - 1000	25.00	0.0	25.00	16.67	16.67	16.67	C = 0.511
1001 - 2000	25.00	0.0	25.00	25.00	25.00	0.0	G = 0.326
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.6067

[a] df = 18, not significant at the 0.05 level.

Table 133

Size of Faculty vs. Lack of Validation Capability

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious	
Under 50	46.15%	0.0%	30.77 %	7.69 %	15.38%	0.0%	Lambda = 0.231
50 - 100	25.00	0.0	0.0	50.00	25.00	0.0	L(A1) = 0.278
101 - 250	50.00	0.0	0.0	25.00	25.00	0.0	L(A2) = 0.190
251 - 500	28.57	14.29	14.29	14.29	28.57	0.0	Chi Sq. = 24.002[a]
501 - 1000	33.33	8.33	16.67	25.00	0.0	16.67	C = 0.673
1001 - 2000	25.00	0.0	75.00	0.0	0.0	0.0	G = -0.130
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 0.6421

[a] df = 24, not significant at the 0.05 level.

Table 134

Size of Faculty vs. Lack of Utilization Control

Size of Faculty	Percent of Programs Indicating the Above is ID Obstacle						Statistical Measures		
	No Response	Most Serious	Highly Serious	Serious	Low Serious	Least Serious			
Under 50	38.46 %	0.0 %	23.08%	30.77%	7.69%	0.0%	Lambda	=	0.158
50 - 100	25.00	0.0	0.0	50.00	25.00	0.0	L(A1)	=	0.235
101 - 250	50.00	0.0	25.00	0.0	25.00	0.0	L(A2)	=	0.095
251 - 500	28.57	0.0	28.57	0.0	42.86	0.0	Chi Sq.	=	10.318[a]
501 - 1000	33.33	0.0	25.00	33.33	8.33	0.0	C	=	0.512
1001 - 2000	25.00	0.0	25.00	50.00	0.0	0.0	G	=	-0.058
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z	=	0.2539

[a] df = 10, not significant at the 0.05 level.

Table 135

Size of Faculty vs. Obstacles to Effective ID

Size of Faculty	Percent of Programs Responding to the Above				Statistical Measures
	No Response	Time	No Support	Salary	
Under 50	69.23%	23.08%	0.0%	7.69%	Lambda = 0.600
50 - 100	75.00	0.0	25.00	0.0	L(A1) = 0.667
101 - 250	100.00	0.0	0.0	0.0	L(A2) = 0.500
251 - 500	100.00	0.0	0.0	0.0	Chi Sq. = 6.000[a]
501 - 1000	100.00	0.0	0.0	0.0	C = 0.707
1001 - 2000	75.00	0.0	25.00	0.0	G = 0.500
Over 2000	100.00	0.0	0.0	0.0	Z = 0.9045

[a] df = 4, not significant at the 0.05 level.

Table 136

Size of Faculty vs. Disengagement Procedures

Size of Faculty	No Response	Admin. Action	Mutual Agree	Project Dormont	Not Yet Enctrd.	Efficient Prescreen	Not App.	Statistical Measures
Under 50	25.00%	33.33	8.33%	8.33%	8.33%	8.33%	8.33%	Lambda = 0.184
50 - 100	33.33	0.0	0.0	0.0	33.33	0.0	33.33	L(A1) = 0.208
101 - 250	25.00	25.00	0.0	0.0	50.00	0.0	0.0	L(A2) = 0.160
251 - 500	0.0	14.29	14.29	0.0	42.86	0.0	28.57	Chi Sq. = 29.691[a]
501 - 1000	25.00	25.00	0.0	16.67	25.00	8.33	0.0	C = 0.683
1001 - 2000	25.00	25.00	25.00	0.0	0.0	0.0	25.00	G = 0.018
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	0.0	Z = 0.0711

[a] df = 30, not significant at the 0.05 level.

Table 137

Size of Faculty vs. Central Geographic Location

Size of Faculty	No Response	Yes	No	Not App.	Statistical Measures
Under 50	0.0%	76.92%	15.38%	7.69%	Lambda = 0.026
50 - 100	25.00	75.00	0.0	0.0	L(A1) = 0.0
101 - 250	0.0	75.00	25.00	0.0	L(A2) = 0.032
251 - 500	0.0	85.71	14.29	0.0	Chi Sq. = 4.968[a]
501 - 1000	0.0	75.00	25.00	0.0	C = 0.319
1001 - 2000	0.0	100.00	0.0	0.0	G = 0.005
Over 2000	0.0	100.00	0.0	0.0	Z = 0.8985

[a] df = 12, not significant at the 0.002 level.

Table 138

Size of Faculty vs. Tenure of Facility

Size of Faculty	No Response	Permanent	Temporary	Not App.	Statistical Measures
Under 50	0.0%	69.23%	23.08%	7.69%	Lambda = 0.152
50 - 100	25.00	50.00	25.00	0.0	L(A1) = 0.200
101 - 250	0.0	100.00	0.0	0.0	L(A2) = 0.129
251 - 500	0.0	85.71	0.0	14.29	Chi Sq. = 14.281[a]
501 - 1000	0.0	41.67	58.33	0.0	C = 0.495
1001 - 2000	0.0	75.00	25.00	0.0	G = 0.295
Over 2000	0.0	0.0	100.00	0.0	Z = 1.1628

[a] df = 12, not significant at the 0.01 level.

Table 139

Size of Faculty vs. Program Tenure at Present Location

Size of Faculty	No Response	Permanent	Temporary	Not App.	Statistical Measures
Under 50	0.0 %	61.54%	15.38%	23.08%	Lambda = 0.041
50 - 100	0.0	75.00	25.00	0.0	L(A1) = 0.059
101 - 250	0.0	50.00	25.00	25.00	L(A2) = 0.031
251 - 500	0.0	85.71	0.0	14.29	Chi Sq. = 9.699[a]
501 - 1000	0.0	58.33	25.00	16.67	C = 0.421
1001 - 2000	0.0	50.00	50.00	0.0	G = 0.243
Over 2000	0.0	0.0	100.00	0.0	Z = 0.8391

[a] df = 12, not significant at the 0.05 level.

Table 140

Size of Faculty vs. Administrative Attitudes Toward ID Program

Size of Faculty	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Under 50	7.69%	46.15%	23.08%	23.08%	0.0%	0.0%	0.0%	Lambda = 0.175
50 - 100	0.0	25.00	25.00	25.00	25.00	0.0	0.0	L(A1) = 0.160
101 - 250	0.0	50.00	50.00	0.0	0.0	0.0	0.0	L(A2) = 0.188
251 - 500	0.0	42.86	28.57	28.57	0.0	0.0	0.0	Chi Sq. = 20.094[a]
501 - 1000	0.0	33.33	66.67	0.0	0.0	0.0	0.0	C = 0.560
1001 - 2000	0.0	50.00	25.00	25.00	0.0	0.0	0.0	G = -0.039
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.2083

[a] df = 18, not significant at the 0.05 level.

Table 141

Size of Faculty vs. Participating Faculty Attitude Toward ID Program

Size of Faculty	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Under 50	7.69%	30.77%	53.85%	7.69%	0.0 %	0.0%	0.0 %	Lambda = 0.130
50 - 100	0.0	25.00	50.00	25.00	0.0	0.0	0.0	L(A1) = 0.087
101 - 250	0.0	25.00	50.00	25.00	0.0	0.0	0.0	L(A2) = 0.161
251 - 500	0.0	42.86	42.86	0.0	14.29	0.0	0.0	Chi Sq. = 14.107[a]
501 - 1000	8.33	16.67	25.00	41.67	8.33	0.0	0.0	C = 0.497
1001 - 2000	0.0	50.00	50.00	0.0	0.0	0.0	0.0	G = 0.143
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.8003

[a] df = 18, not significant at the 0.05 level.

Table 142

Size of Faculty vs. ID Staff Members Attitude Toward Program

Size of Faculty	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Under 50	15.38%	30.77 %	46.15%	7.69%	0.0%	0.0%	0.0%	Lambda = 0.111
50 - 100	25.00	25.00	50.00	0.0	0.0	0.0	0.0	L(A1) = 0.118
101 - 250	0.0	50.00	25.00	25.00	0.0	0.0	0.0	L(A2) = 0.069
251 - 500	14.29	85.71	0.0	0.0	0.0	0.0	0.0	Chi Sq. = 15.620[a]
501 - 1000	8.33	50.00	41.67	0.0	0.0	0.0	0.0	C = 0.530
1001 - 2000	0.0	100.00	0.0	0.0	0.0	0.0	0.0	G = -0.440
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	0.0	Z = 2.0484

[a] df = 12, not significant at the 0.05 level.

Table 143

Size of Faculty vs. Attitude of ID Program Trainees

Size of Faculty	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Under 50	30.77%	23.08%	38.46%	7.69%	0.0%	0.0%	0.0%	Lambda = 0.086
50 - 100	50.00	0.0	50.00	0.0	0.0	0.0	0.0	L(A1) = 0.071
101 - 250	25.00	25.00	25.00	0.0	0.0	25.00	0.0	L(A2) = 0.095
251 - 500	42.86	0.0	28.57	14.29	0.0	0.0	14.29	Chi Sq. = 14.687[a]
501 - 1000	25.00	16.67	41.67	16.67	0.0	0.0	0.0	C = 0.573
1001 - 2000	50.00	25.00	25.00	0.0	0.0	0.0	0.0	G = 0.085
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.3062

[a] df = 18, not significant at the 0.05 level.

Table 144

Size of Faculty vs. Consumer Attitude Toward ID Program

Size of Faculty	No Response	Strongly Positive	Positive	Neutral	Negative	Strongly Negative	Not App.	Statistical Measures
Under 50	23.08 %	15.38%	46.15%	7.69%	0.0 %	0.0%	7.69%	Lambda = 0.050
50 - 100	25.00	0.0	50.00	25.00	0.0	0.0	0.0	L(A1) = 0.0
101 - 250	0.0	25.00	50.00	0.0	25.00	0.0	0.0	L(A2) = 0.077
251 - 500	14.29	28.57	42.86	0.0	0.0	0.0	14.29	Chi Sq. = 17.284[a]
501 - 1000	25.00	8.33	50.00	16.67	0.0	0.0	0.0	C = 0.570
1001 - 2000	25.00	25.00	50.00	0.0	0.0	0.0	0.0	G = -0.025
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	0.0	Z = 0.0966

[a] df = 24, not significant at the 0.05 level.

Table 145

Size of Faculty vs. Attitude Toward Different Academic Backgrounds

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	15.38%	0.0%	23.08%	46.15%	15.38%	0.0%	Lambda = 0.196
50 - 100	0.0	0.0	50.00	50.00	0.0	0.0	L(A1) = 0.240
101 - 250	0.0	50.00	0.0	25.00	25.00	0.0	L(A2) = 0.161
251 - 500	0.0	14.29	57.14	28.57	0.0	0.0	Chi Sq. = 23.711[a]
501 - 1000	0.0	0.0	50.00	25.00	25.00	0.0	C = 0.596
1001 - 2000	0.0	25.00	75.00	0.0	0.0	0.0	G = -0.272
Over 2000	0.0	0.0	0.0	100.00	0.0	0.0	Z = 1.5682

[a] df = 18, not significant at the 0.05 level.

Table 146

Size of Faculty vs. Preference for Director with Ed. Psych. or Media Background

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	15.38%	0.0%	15.38%	15.38%	46.15%	7.69%	Lambda = 0.208
50 - 100	0.0	0.0	25.00	0.0	75.00	0.0	L(A1) = 0.261
101 - 250	0.0	0.0	50.00	25.00	0.0	25.00	L(A2) = 0.167
251 - 500	0.0	0.0	14.29	42.86	28.57	14.29	Chi Sq. = 47.299[a]
501 - 1000	0.0	0.0	0.0	16.67	66.67	16.67	C = 0.729
1001 - 2000	25.00	50.00	0.0	0.0	0.0	25.00	G = 0.080
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	

[a] df = 24, significant at the 0.003 level.

Table 147

Size of Faculty vs. Preference of Generalist Approach over Individual or Team Approach

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	15.38 %	7.69%	7.69%	7.69%	38.46%	23.08%	Lambda = 0.074
50 - 100	0.0	0.0	0.0	0.0	100.00	0.0	L(A1) = 0.087
101 - 250	0.0	0.0	0.0	50.00	25.00	25.00	L(A2) = 0.065
251 - 500	0.0	0.0	28.57	14.29	57.14	0.0	Chi Sq. = 24.410[a]
501 - 1000	0.0	0.0	25.00	16.67	41.67	16.67	C = 0.602
1001 - 2000	0.0	25.00	0.0	25.00	25.00	25.00	G = -0.184
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.0694

[a] df = 24, not significant at the 0.05 level.

Table 148

Size of Faculty vs. Attitude Toward Instructor's Right to Reject Developed Instruction

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	0.0%	38.46%	23.08%	15.38%	23.08%	0.0%	Lambda = 0.200
50 - 100	0.0	0.0	100.00	0.0	0.0	0.0	L(A1) = 0.238
101 - 250	0.0	0.0	25.00	50.00	25.00	0.0	L(A2) = 0.172
251 - 500	14.29	0.0	57.14	14.29	14.29	0.0	Chi Sq. = 26.560[a]
501 - 1000	16.67	8.33	66.67	0.0	8.33	0.0	C = 0.625
1001 - 2000	0.0	25.00	25.00	50.00	0.0	0.0	G = 0.022
Over 2000	0.0	0.0	0.0	100.00	0.0	0.0	Z = 0.1126

[a] df = 18, not significant at the 0.05 level.

Table 149

Size of Faculty vs. Attitude that Validation is Essential Aspect of ID

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	0.0%	69.23%	23.08%	7.69%	0.0%	0.0%	Lambda = 0.064
50 - 100	0.0	50.00	50.00	0.0	0.0	0.0	L(A1) = 0.067
101 - 250	0.0	75.00	0.0	25.00	0.0	0.0	L(A2) = 0.063
251 - 500	0.0	71.43	28.57	0.0	0.0	0.0	Chi Sq. = 55.169[a]
501 - 1000	0.0	58.33	25.00	8.33	8.33	0.0	C = 0.742
1001 - 2000	0.0	100.00	0.0	0.0	0.0	0.0	G = -0.052
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	Z = 0.2280

[a] df = 24, significant at the 0.001 level.

Table 150

Size of Faculty vs. Attitude that Production is Essential Part of ID

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	0.0%	46.15%	38.46%	7.69%	0.0%	7.69%	Lambda = 0.075
50 - 100	0.0	50.00	50.00	0.0	0.0	0.0	L(A1) = 0.136
101 - 250	0.0	50.00	50.00	0.0	0.0	0.0	L(A2) = 0.032
251 - 500	0.0	71.43	28.57	0.0	0.0	0.0	Chi Sq. = 23.348[a]
501 - 1000	8.33	33.33	50.00	8.33	0.0	0.0	C = 0.589
1001 - 2000	0.0	75.00	0.0	0.0	0.0	25.00	G = -0.052
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	Z = 0.2518

[a] df = 18, not significant at the 0.05 level.

Table 151

Size of Faculty vs. Reaction to Suggested ID Definition

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures		
Under 50	7.69%	30.77%	46.15%	7.69%	0.0%	7.69%	Lambda	=	0.105
50 - 100	0.0	50.00	50.00	0.0	0.0	0.0	L(A1)	=	0.160
101 - 250	0.0	50.00	25.00	25.00	0.0	0.0	L(A2)	=	0.063
251 -500	0.0	57.14	42.86	0.0	0.0	0.0	Chi Sq.	=	30.007[a]
501 - 1000	0.0	33.33	50.00	0.0	16.67	0.0	C	=	0.637
1001 -2000	0.0	50.00	25.00	0.0	0.0	25.00	G	=	-0.002
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	Z	=	

[a] df = 24, not significant at the 0.05 level.

Table 152

Size of Faculty vs. Continuous Reporting Procedures

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	7.69%	46.15%	23.08%	7.69%	15.38%	0.0%	Lambda = 0.259
50 - 100	0.0	50.00	50.00	0.0	0.0	0.0	L(A1) = 0.261
101 - 250	0.0	25.00	25.00	50.00	0.0	0.0	L(A2) = 0.258
251 - 500	14.29	42.86	28.57	14.29	0.0	0.0	Chi Sq. = 61.872[a]
501 - 1000	0.0	16.67	75.00	8.33	0.0	0.0	C = 0.768
1001 - 2000	0.0	25.00	75.00	0.0	0.0	0.0	G = 0.092
Over 2000	0.0	0.0	0.0	0.0	0.0	100.00	Z = 0.4980

[a] df = 24, significant at the 0.001 level.

Table 153

Size of Faculty vs. Opinion as to Who Should Bear Cost of ID

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	7.69%	7.69%	30.77%	23.08%	30.77%	0.0%	Lambda = 0.119
50 - 100	0.0	25.00	50.00	0.0	0.0	25.00	L(A1) = 0.143
101 - 250	0.0	0.0	75.00	0.0	0.0	25.00	L(A2) = 0.097
251 - 500	0.0	0.0	28.57	28.57	28.57	14.29	Chi Sq. = 24.190[a]
501 - 1000	0.0	0.0	25.00	33.33	41.67	0.0	C = 0.600
1001 - 2000	0.0	0.0	25.00	75.00	0.0	0.0	G = 0.117
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.7075

[a] df = 20, not significant at the 0.05 level.

Table 154

Size of Faculty vs. Quality of Physical Facility Effecting ID Program

Size of Faculty	No Response	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Statistical Measures
Under 50	0.0%	30.77%	23.08%	15.38%	30.77%	0.0%	Lambda = 0.095
50 - 100	0.0	25.00	25.00	50.00	0.0	0.0	L(A1) = 0.097
101 - 250	0.0	25.00	25.00	25.00	25.00	0.0	L(A2) = 0.094
251 - 500	0.0	42.86	0.0	42.86	14.29	0.0	Chi Sq. = 15.510[a]
501 - 1000	0.0	8.33	25.00	33.33	25.00	8.33	C = 0.506
1001 - 2000	0.0	0.0	25.00	50.00	25.00	0.0	G = 0.192
Over 2000	0.0	0.0	100.00	0.0	0.0	0.0	Z = 1.1952

[a] df = 24, not significant at the 0.05 level.

Table 155

Size of Faculty vs. Means of Insuring Use of Developed Instruction

Size of Faculty	No Response	Admin. Edict	Intern. Checks	Extern. Checks	Vol. or No Cks.	Pre-Screen	Don't Know	Statistical Measures
Under 50	7.69%	7.69%	46.15%	7.69%	30.77%	0.0%	0.0%	Lambda = 0.246
50 - 100	25.00	0.0	25.00	0.0	0.0	50.00	0.0	L(A1) = 0.250
101 - 250	0.0	0.0	25.00	25.00	0.0	50.00	0.0	L(A2) = 0.241
251 - 500	14.29	28.57	14.29	0.0	28.57	0.0	0.0	Chi Sq. = 30.267[a]
501 - 1000	8.33	8.33	8.33	0.0	16.67	50.00	8.33	C = 0.652
1001 - 2000	0.0	25.00	25.00	0.0	25.00	25.00	0.0	G = 0.072
Over 2000	0.0	100.00	0.0	0.0	0.0	0.0	0.0	Z = 0.4629

[a] df = 30, not significant at the 0.05 level.

Table 156

Size of Faculty vs. Sources of Development Program Personnel

Size of Faculty	No Response	College/ Univ.	Indiv. Contact	Not Yet Tried	Prof. Orgs.	Other	Statistical Measures
Under 50	61.54%	0.0%	7.69%	15.38%	15.38%	0.0%	Lambda = 0.219
50 - 100	75.00	25.00	0.0	0.0	0.0	0.0	L(A1) = 0.143
101 - 250	25.00	25.00	25.00	0.0	0.0	25.00	L(A2) = 0.278
251 - 500	28.57	42.86	14.29	14.29	0.0	0.0	Chi Sq. = 28.450[a]
501 - 1000	16.67	58.33	0.0	0.0	8.33	16.67	C = 0.710
1001 - 2000	0.0	50.00	25.00	0.0	0.0	25.00	G = -0.378
Over 2000	100.00	0.0	0.0	0.0	0.0	0.0	Z = 1.6943

[a] df = 25, not significant at the 0.035 level.